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THE PEOPLES OF THE WORLD

VOLUME III

THE NATIONS OF EUROPE

BY

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PREFACE

THE preparation of a text-book for pupils between the ages of eleven and fifteen years necessitated a rigid selection of material. At the same time an endeavour has been made to give such material as will provide the basis of a sound perspective as well as premises to stimulate and guide the thinking of the older and brighter pupils.

It is intended that the book shall be used with a good atlas, and for that reason the accounts of the different countries omit information that can be obtained from the atlas. Verbal paraphrases of information depicted in the atlas have been avoided as far as possible, since such verbal paraphrases form useful exercises for the pupil.

If the study of geography is to give a scientific training it is advisable that the pupil should be presented with the facts before generalizations are drawn. For this reason the facts are not given as examples of a regional classification. It is expected that the teacher will assist the pupil to collect relevant facts, to classify them, and to base tentative generalizations upon them.

It is the belief of the author that a true perspective can be obtained only as the result of the consideration of quantitative data. These data are practically confined to the problems which complete each chapter. The problems are intended also to provide exercises for brighter pupils, and to suggest to the teacher new avenues of approach to the subject-matter. But their primary purpose is to encourage the pupils to think about human affairs in relation to their geographical setting, and not to produce final answers which are numerically correct or incorrect.

Those teachers who doubt the wisdom of incorporating numerical data are referred to the author's chapter on the subject in *School Geography*, where an attempt has been made to justify their incorporation, and where suggestions are made as to methods of handling such data in the classroom.

Among the books to which the author is deeply indebted, and to which teachers are recommended to turn for further information, are the Peace Handbooks issued by the Historical Section of the Foreign Office and the handbooks and manuals issued by the Geographical Section of the Naval Intelligence Division of the Admiralty.

E. J. G. BRADFORD

NOTE TO THE NEW EDITION

OWING to the measures taken by the various European Governments to develop national economic independence, the trade statistics embodied in the problems of the first edition of this book no longer present an accurate picture of current conditions, and consequently many of the problems have been recast. The conditions in Russia have also changed in recent years, so that it has been found necessary to revise the chapter dealing with that country. For information on this subject the author is deeply indebted to Mr H. Alnwick's lucid account in his *Geography of Europe*, published in this series.

E. J. G. B.

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THE
NATIONS OF EUROPE

INTRODUCTION

THE lives of the people of Europe are affected by three outstanding influences. The first is to be found in the great line of mountains stretching under varying names from Northern Spain to the Black Sea, the chief groups of which are the Pyrenees, the Alps, the Carpathians, and the Balkans. This ridge of high ground prevents the free movement of warm air northward and of cold air southward, thus intensifying both the warmth which lands bordering the Mediterranean Sea gain from their lower latitude and the coolness of northern lands.

The second influence is the steady movement of air from the Atlantic towards Western Europe. This air brings with it much cloud, rain, and warmth. The clouds cut off the heat of the sun in summer and make the ripening of crops more difficult, but by way of compensation they act as a blanket in winter-time and prevent the heat from leaving the earth quickly. The heat used over the ocean in changing the water into vapour is returned to the air when the vapour condenses into rain; this warming effect is especially noticeable in winter. Thus the weather in Western Europe is neither very cold in winter nor very hot in summer.

The third influence is to be found in the great beds of coal that underlie the surface in parts of Britain, France, Belgium, Germany, Poland, and Russia. These coalfields roughly form a belt across Europe which is densely peopled, and has many great cities.

The peoples of Europe are said to be highly civilized, but they were late in earning this title. There have been civilized communities inhabiting many parts of the world at different times during the last six thousand years. The word 'civilized' is here applied to peoples among whom there are those who can read and write, construct great buildings, make instruments out of metals, build irrigation systems, think deeply about and distinguish what is really good from what is really bad, men who are called philosophers and religious teachers, and those who can make laws which assist people to live happily together.

The earlier civilizations were established in parts of the world where it was fairly easy to grow food-plants, where there was always enough heat, where water could be obtained with reasonable certainty and regularity, and where the ground was not encumbered with great forests that needed cutting down before the land could be tilled. Such areas were to be found in the valleys of the rivers Yangtze, Euphrates, Nile, and Ganges. Because it was possible for a man to grow more than was needed for his own family he was able to feed those who devoted their lives to making clothing, cooking utensils, metal instruments of war, and magnificent temples and palaces, and to recording events—in other words, to support weavers, potters, smiths, masons, and men of learning. All this development can be traced back to the favourable climate that enabled man to produce a surplus of food. In consequence these river valleys became very densely populated and the homeland of highly civilized peoples.

Europe, north of the mountains that enclose the Mediterranean, was so lacking in sunshine and warmth that its peopling lagged behind that of more favoured lands, and did not become dense until about a hundred years ago. During the last century, however, Europeans have increased rapidly in numbers and in knowledge, and in many ways have outstripped the standards of former civilizations. This advance has been due in no small measure to the discovery of coal beneath the earth's surface and to the intelligence with which men harnessed its energy to machines for performing operations which were formerly done by the muscles of man and of his domestic animals.

Clothing and metal goods were made much more cheaply by the power-driven machines and coal-fed furnaces than by the hand-workers scattered in the villages all over the world. Hence the people of Western Europe, especially the British at first, were able to sell their goods in almost every corner of the world. In return they had to obtain food from other countries. In consequence fresh lands were opened up in North and South America, in Australia and in New Zealand, to supply food to the rapidly increasing number of industrial workers in Europe. Though many of these workers suffered from lack of sunshine and fresh air in the smoky industrial towns, yet they enjoyed leisure and luxuries which the agricultural populations of earlier times had never experienced.

In recent years coal has been discovered, and is now mined, in India, China, Japan, and Australia. Factories have been established in these countries to supply clothing and machines for their own people, who were formerly supplied from Europe. In such European countries as Norway, Italy, and Switzerland the power of the streams is now being used in the form of electricity to supply factories and furnaces. This means that it is becoming increasingly difficult for the people living over the densely populated coalfields of Europe to sell their coal and manufactures and to buy food from abroad.

The question arises, will men be able to continue to live in such large numbers and in such comfort in these cooler and comparatively sunless lands if they are once more compelled to gain a living from the soil instead of from the minerals beneath it? Every European Government is trying to persuade its people to supply all their own needs in respect of food and manufactured articles.

This means that trade between peoples is decreasing, and that those who were engaged in transporting goods from one part of the world to another find difficulty in making a living.

Scientists are helping to solve this problem by finding food-plants that can grow in cooler and moister climates, by making substances that were formerly only obtainable from plants grown in hot countries, and by producing manures that will maintain the fertility of the soil. Hence it is possible that by the application of his intelligence mankind will contrive to live in comfort in lands cooler than those where the earlier civilizations flourished.

PROBLEMS

1. Name the chief mountain-ranges not mentioned in the previous chapter. Suggest what influence these highland areas may have upon the movement of air over the continent, and hence upon the climate of parts of Europe.

2. Examine the rainfall map of Europe, and describe in words the chief differences between (*a*) the north-west and north-east and (*b*) the south-west and south-east.

3. Examine your population map, and name any densely peopled areas that do not appear to be situated over a coalfield.

4. If Europe were divided into four large divisions, East, South, Central, and West, name the countries which you think would be included in each division.

I. THE BALKAN STATES

CHAPTER I

THE LAND OF THE YUGO-SLAVS

ONE of the things that a traveller crossing this land would most certainly notice would be the differences in speech and the different characters or letters used in writing and printing. If he had much conversation with the people he would learn that there were three different religious groups among them.

These differences are due very largely to the position of the country among other countries, and to the arrangement of the mountains and valleys. The boundaries of the country enclose roughly an obtuse-angled triangle. The triangle does not lie flat; it is tilted so that its south-west edge is highest and its north edge lowest. There is a very steep slope down to the Adriatic Sea on the south-west, and a more gentle slope down to the Danube plain on the north. The more gentle slope is deeply cut by many rivers, which are tributaries of the river Save, itself a tributary of the Danube. The east side of the triangle runs parallel to the east side of the valley of the river Morava, another tributary of the Danube.

This triangle is easy to pass round, by sea and river valley, but very difficult to cross. In order to cross it the traveller would have to climb up and down, into and out of numerous river valleys which cut into the more gentle slope that leads to the plain of the Danube. The mountains which run parallel to the Adriatic Sea are higher than the Pennine Chain in England; in most places the crest is more than twice as high; to the south, the name Shar Dagh is given to the highest ridge. One can understand why travellers would prefer to go a long way round the country rather than attempt to take a short cut across this ridge. So we are not surprised to find that from the earliest times of which history gives an account the chief routes were along the valleys of the Save and Drave in the north and the Morava and Vardar in the east.

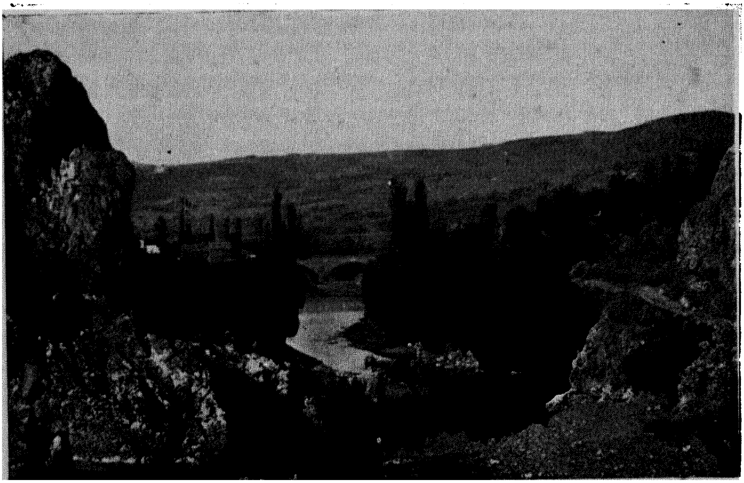


FIG. 2. MOUNTAINOUS COUNTRY NEAR THE FRONTIER BETWEEN BULGARIA AND YUGO-SLAVIA

Notice the road cut in the cliff face.

By courtesy of the Legation of the Kingdom of the Serbs, Croats, and Slovenes

The history books tell us that some time after the Roman Emperor Constantine gave the Christians freedom he moved the headquarters of his Government from Rome to Byzantium, now called Constantinople. The Christian Church at Rome sent out missionaries, who spoke and wrote Latin. As you know, some of them reached England, and converted a few of the English kings. Others crossed the mountains and reached the western end of the valleys of the Save and Drave. In a similar way the Christian Church in Constantinople sent out missionaries into the surrounding lands. These missionaries spoke and wrote Greek; they moved into the country from the other side, and made converts at the eastern end of the valleys of the Save and Drave.

If you take a piece of cotton and measure the distance on the map from Rome round the northern end of the Adriatic Sea, over the mountains, and along the valley of the Save to the town of Zagreb, and then measure the distance from Constantinople along the valleys of the Maritza and Morava rivers to the town of Belgrade, you will find that the two distances are about equal. The people who live in the Zagreb end of the country are mostly Roman Catholics, and write with Latin letters, such as we use. The people who live at the Belgrade end of the country use the Cyrillic alphabet (like the Greek), and are members of the Greek Orthodox Church. The differences of speech are not so great that the peoples cannot understand one another, but communication is made difficult when different letters are used for the same sounds. The remainder of the population are Mohammedans, descendants of the people converted by the invading Turks who in the fifteenth century entered the country along the Maritza and Vardar valleys.

If two circles were drawn, one with its centre at Zagreb, and the other with its centre at Belgrade, and if each circle had a radius of one hundred miles, nine-tenths of the people of Yugo-Slavia would be included within the two circles. Nearly all the people live along one side of the triangle. There are several reasons why other parts of the country have few inhabitants.

In the Karst district in the north-west the rocks are largely limestone, the hills and mountain-slopes are rather steep, and the trees, which originally grew plentifully, have to a large extent been cut down. The result is that much soil originally held by the tree-roots has been washed away, and the water drains away quickly after rain; for what does not get away over the surface quickly soaks through the limestone or runs down the cracks in the rock. As neither man nor beast can live without water, few people live in this district.

More than a third of the whole country is forest-covered. The forests are usually on the higher ground—ground not easy to plough on account of the steep slopes or too exposed in position to make the growing of crops profitable. Few people live in the forested highlands.

The differences between the people do not extend to the sort of work they do. Four out of every five work on the farms; they usually till their own little farm of anything up to twenty acres—that is, about half the size of the average English farm. Naturally, the peasant farmer is as a rule not a wealthy man. His house is built rather roughly out of materials that can be obtained in the locality.

"In the Karst region the villages are small; and the little rough-cast whitewashed dwellings with their tiled roofs huddle together in hollows where the water-supply is assured. Across the mountains, toward the Save, the houses are even poorer, built of timber on dried clay or brick foundations with thatched roofs. . . . The villages of the Slavonian plain on close inspection will be seen to hide under a fresh appearance dwellings that are poorly built of bad bricks and earth, whose walls seem incapable of resisting heavy rain. In the forest regions the houses are chiefly constructed of timber."[1]

The farmer uses more of his land for growing maize than for growing wheat. Maize produces more food than wheat on the same area, and it is suitable for feeding the chickens and fattening the pigs and cattle, although it is not such a good food as wheat for human beings. The farmer sells his surplus of maize, pigs, and eggs. These, together with timber, are the chief exports. All farmers desire good soil and good weather. The soil of the plains has largely been brought down by the streams from the higher ground. This process is still proceeding fairly rapidly—so rapidly, in fact, that it makes even the main rivers useless for navigation, except for very small boats and barges, on account of the sand-banks which form in their courses. The finely divided soil of the plains can be fairly easily tilled with the old-fashioned iron-shod wooden ploughs commonly used. The soil, being a mixture of many rocks, is fertile, and good crops are raised when the weather will allow.

---

[1] Peace Handbooks, No. 8, p. 9.

There is a greater difference between the seasons than in Britain. Higher temperatures are experienced in summer, and rather lower temperatures in winter. Except in the mountain regions, the rainfall is less. Moisture-bearing winds from the sea have to pass over the highest part of the country before they reach the plains. Thus the average rainfall is light, and the least fall below it affects the crops. Some years have a poor maize crop; other years a poor wheat crop. Light rainfall means poor pasture, so that many of the small farmers keep hardy goats and sheep instead of cattle, for milking and for meat. About a tenth of the cultivated area grows plum-trees. From the plums the peasants make brandy for home use; the surplus fruit is dried and exported as prunes.

The forests are being developed to-day as a source of timber. The important trees are the fir, which grows in the highest regions that will bear trees, the beech, which is very common on the higher parts, and the oak, which, with the beech, provides a regular food-supply for the pigs. A good deal of the wood is exported for making wine-casks and railway-sleepers. Though largely useless for boats, the rivers can be used for floating timber. As practically no coal is mined, fuel for the homes of the people is derived from the forests.

Most of the seaborne foreign trade goes through the port of Salonika, where a customs free area has been given to Yugo-Slavia. The route inland is easier than that from the Adriatic coast, over which the Italians desire control.

The Government of the country is centred in Belgrade. Somewhat larger than Zagreb, this town has the advantage of being the meeting-point of the routes from the north, south, west, and east. Its position has maintained its importance through many centuries.

PROBLEMS

1. How would you account for the fact that most of the foreign trade of Yugo-Slavia is with Italy and Austria, Germany and Czecho-Slovakia?

2. Name the countries which have common boundaries with Yugo-Slavia. Describe the character of the country along each boundary.

3. What is the shortest distance from Belgrade to the sea-coast? Draw a free-hand section to show the height of the intervening country.

4. Name three of the smaller towns, and say why you think they are likely or not likely to become places of greater importance. Describe carefully in words the exact position of each.

5. Account for the similarity of temperatures between Belgrade and Monastir, and for the differences between Belgrade and Fiume.

Town	Average Temperature, January	Average Temperature, July
Belgrade . . .	29° F.	71° F.
Monastir . . .	30° F.	71° F.
Fiume . . .	41° F.	75° F.

6. Suggest climatic reasons to account for the greater acreage of wheat and maize than of oats and barley. The 1933 acreage and yield of the chief grain crops are given below:

Crop	Acreage in Millions of Acres	Yield in Millions of Tons
Wheat . . .	5·1	2·6
Barley . . .	1·0	·5
Oats	·9	·4
Maize . . .	6·2	3·6

7. Calculate the yield in tons per acre of each of the crops mentioned in problem 6. Does this suggest a reason for one crop being grown more extensively than another? In which parts of the country do you think (*a*) maize, (*b*) wheat, and (*c*) oats would most likely be grown?

CHAPTER II

THE LAND OF THE BULGARS

THE last section of the land-route from Western Europe to the East passes across Bulgaria from north-west to south-east. After leaving Belgrade the railway-line follows the valley of the river Morava, and then climbs up the valley of its chief eastern tributary. The tilled fields of the lowlands gradually give way to wilder country. The villages or hamlets are farther apart, the ploughed fields appear only in patches, wooded hillsides are more frequent and more extensive. For about a hundred miles the route continues on an almost constant incline. The wooded hill-slopes are frequently replaced by bare, precipitous walls of rock, with an odd tree here and there finding root-hold in a crevice or on a soil-covered ledge. The country generally is wild and open. The map tells us that we are now more than 3000 feet above sea-level. After passing this crest of high land joining the two main mountain systems of the country the train takes the traveller to the town of Sofia, the capital of Bulgaria.

An attempt to picture the country as a whole might lead to imagining something like the crown of an old soft felt hat that had the usual crease along it from front to back. Of course, the outside slopes are not nearly as steep as those of a hat. When it rains the water runs down and collects in the crease, and flows from there into the brim. The water also runs directly down the sides of the hat into the brim.

The railway-line we have been talking about has brought us into one end of the crease. The water collected in the crease goes by the name of the river Maritza. Most of the Bulgarians live on the lower slopes of the crease and the lower slopes leading down to the brim. Along the north brim is the river Danube, along the south is the Ægean Sea, along the east is the Black Sea.

Except among the higher mountains most of the people are engaged in farming. More than four-fifths of the Bulgarians are farmers. All parts of the country are so much alike in the weather that they experience that most farmers grow the same sort of crops. The countryside is dotted with small and large villages. There are few towns of any size, except Sofia, which is large. Isolated farms are rare. Every house in the village has its own orchard, surrounded by a wicker fence. The houses contain little furniture, but their interiors are clean. In the plains the peasant proprietor's house is a one-storey mud structure built on a wooden framework which raises it about 3 feet above the ground. The roof, of thatch or tiles, with very little slope, generally extends beyond the walls,

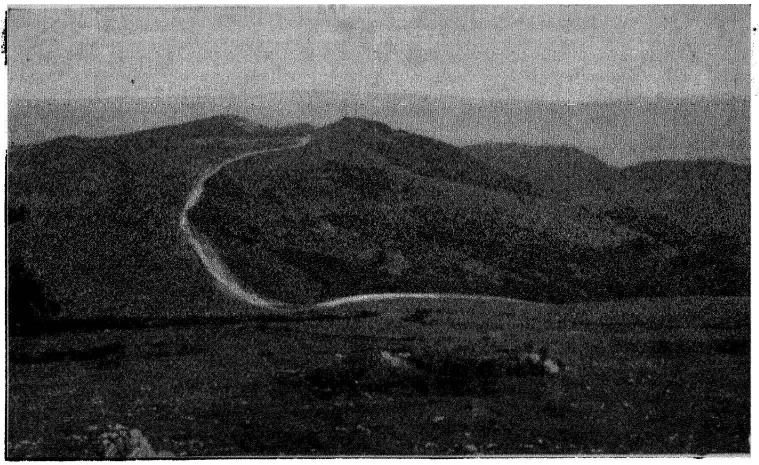


FIG. 3. THE SHIPKA PASS, ACROSS THE BALKAN MOUNTAINS

Notice that the trees have been removed. Also notice the type of roadway, a mere rough track. Can you detect any signs of cultivation? Your map will tell you how high this pass is.

Photo E. N. A.

and forms a sort of veranda, in which maize, onions, and pepper are suspended. The veranda is generally used as the dining-room, and in summer as a sleeping-room. Houses with verandas suggest that the weather is hot, at least during a considerable part of the year. As a matter of fact, for two months or more the weather is considerably hotter than we have in an English summer. The elevation of the houses above the surface suggests that the ground has some quality that makes it inadvisable to put houses on it. On very level land the water does not run away readily after rain. It is not healthy to live on rain-soaked land. In other countries this difficulty is met in other ways—for example, by having stone or tiled floors. For centuries the rain has been washing the finer fragments of rocks down and building up the plains with finely divided soil. Large stones are scarce, so that the houses there are not built of stone.

In the mountains stone is plentiful, but soil is scarce, because it is washed off the steeper slopes. The houses are generally of stone, and two storeys high; the lower storey is occupied by the domestic animals. The weather is more stormy; it is also colder and wetter; thus the peasants take care to provide shelter for their animals.

The Bulgarian rises early and works late. During harvest-time it is not unusual for him to work till the light fails, and then lie down in the open on the field where he has been working. This shows how hard-working he is, but it also shows how warm it must be in summer. Nearly every peasant has a farm of from five to fifteen acres. There are no fences between the fields. Every family has at least one pair of oxen and forty or fifty sheep, besides cattle, goats, pigs, geese, and chickens, all of which are allowed to graze or feed on the common pasture.

The peasant's food consists of wholemeal bread, hard cheese, sour curd, which is like rank butter, vegetables, especially melons, and very occasionally meat and eggs.

His chief drink is water, but he sometimes has a little tea in the Russian fashion, without milk, or coffee in the Turkish fashion. The women work very hard, spinning, marketing, and attending to the flocks and herds.

The harvesting season is a long one. The workers move from farm to farm, gradually moving to the higher ground, where the harvests are later. A great increase in the height of land means that in the mountains the mild spring weather sets in later, and that, owing to the lower temperature, the grain crops take longer to ripen. All children between the ages of six and eleven have to go to school, but the schools are not open between the 1st of May and the 1st of September. But the children do not go away for holidays; they work in the fields. In most parts of Bulgaria it is as hot in May as it is in an English July. Of course, with the schools shut for such a long time, the children have less time to learn and longer to forget, and we find that fewer of them go on to secondary schools and colleges.

Though it is warm in summer it is cold in winter. Practically throughout the length and breadth of the land it freezes every day in January, and on half the days of December and February. Boats cannot make use of the Danube during this period. Only the ports on the Black Sea coast are free from ice in winter. The rivers generally are useless for boats, not because of the frost so much as because the depth of water in them is too uncertain. Sometimes there is plenty to float a boat; at other times there is not nearly enough. In August and September Bulgaria has only half as much rain as we have in Great Britain, and, since it is much hotter, a great deal of the moisture is dried up before it has soaked through the ground on its way to the rivers.

Although there are considerable forests, little timber is exported. The local wood is used for building and for fuel, which is very necessary in the cold winters. The other things which are imported to a considerable extent are textiles and machinery. Tobacco and eggs are the two chief things sent out of the country. They are sent through the seaport towns of Varna and Burgas, by river-ports on the Danube, or by railway. Half of the trade goes through the Black Sea ports and a quarter each by the Danube and by rail.

In the middle of a little valley in the Balkan Mountains is a small town surrounded by almond- and chestnut-trees —Kazanlik, where tons of rose-leaves are used to make rose-water, rose-oil, and rose-wax. The number of roses grown in the surrounding district can be imagined when one is told that a hundred pounds of rose-leaves yield only two-thirds of an ounce of rose-oil. A hundred and fifty thousand pounds' worth of these rose products are sent out of the country yearly. As much as £70 is paid for a kilogram of oil.

PROBLEMS

1. Out of the 6·3 million acres of arable land wheat crops are grown on 3 million and maize on 1·8 million. Compare these figures with the corresponding ones for Yugo-Slavia (problem 6, p. 20), and suggest reasons to account for the differences you notice.

2. Measure on your map the distance to a chosen point in Bulgaria from London by sea and from Hamburg by rail. If you think that these distances help to explain why Bulgaria does a greater trade with Germany than with England, give the reasons for your opinion.

3. Sofia is said to be the 'focus' of four routes along river valleys. Name these rivers, and say to which countries these routes lead. Which route do you consider to be (*a*) the most important, (*b*) the least important, of the four? Give reasons to support your answer.

4. Describe in words the sort of country you would pass through in a journey by road from Ruschuk, a port on the Danube, to Salonika, a Greek port on the Ægean Sea.

5. In Sofia and Philippopolis the average monthly temperatures in degrees Fahrenheit are as given in the following table:

Town	November	December	January	February	March
Sofia	40	31	26	31	40
Philippopolis	44	35	31	34	44

The average number of days on which the thermometer registers 32° F. or less is as follows:

Town	November	December	January	February	March
Sofia . .	14	21	28	21	15
Philippopolis	7	12	24	13	7

How would you account for the fact that Sofia is colder in winter than Philippopolis, and what difference would this make to the work of the farmers in the districts near these two towns?

6. Only 50,000 acres are devoted to growing tobacco, and yet tobacco is by far the most valuable export from the country. How would you explain this?

7. Tobacco and eggs together comprised 50 per cent. of the value of all exports in 1934, while textiles, metals, and machinery accounted for 50 per cent. of the imports. Suggest reasons to account for the surplus of farm products and deficiency of manufactured products.

CHAPTER III

THE LAND OF THE GREEKS, AND CONSTANTINOPLE

It would be impossible for all the Jews of the world to find a living in Palestine. Similarly, it would be impossible for all the Greeks to live in the land which is now governed by them. If one were to land at almost any port in the Eastern Mediterranean or the Black Sea one would meet with Greeks. In many of the ports they are the chief shopkeepers and merchants. Colonies of Greeks are to be found scattered along the coasts, from Alexandria in Egypt to Odessa in Russia.

This scattering of the people arises from the nature of the country from which their forefathers sprang. If you try to picture to yourself a long dish, half filled with water, into which a number of stones of varying size have been dropped, and imagine that the water is not quite deep enough to cover the stones completely, then you have a rough idea of Greece. The western edge of the dish is formed by the peninsula of which the Pindus Mountains are the highest part. The north edge is formed by the Balkan Mountains, on the border of Bulgaria. The eastern edge is formed by the highlands of Anatolia, and the south edge by the mountainous interior of the island of Crete. The stones in the dish represent the multitude of islands forming the Ægean Archipelago. The centre of the country of the Greeks lies somewhere near the middle of the Ægean Sea. The easiest, the quickest, and in many cases the only way to get from one part of the country to another is to cross the water. Even when it is desired only to travel from one part of an island to another it is easier to go round the coast than to cross the mountainous interior.

If you look carefully at a map of Greece that shows the relief of the country you will notice that very little of the land-surface is less than a thousand feet above sea-level, and that the slopes from the highland to the low coastal plains are distinctly steep. This means that there is not much land available for growing food-crops such as wheat, maize, barley, and oats. If the people cannot get a living easily from the land they will naturally be interested in other means of earning a livelihood, or else be on the look-out for other countries where they can earn a living, much in the same way as British people look to the overseas dominions.

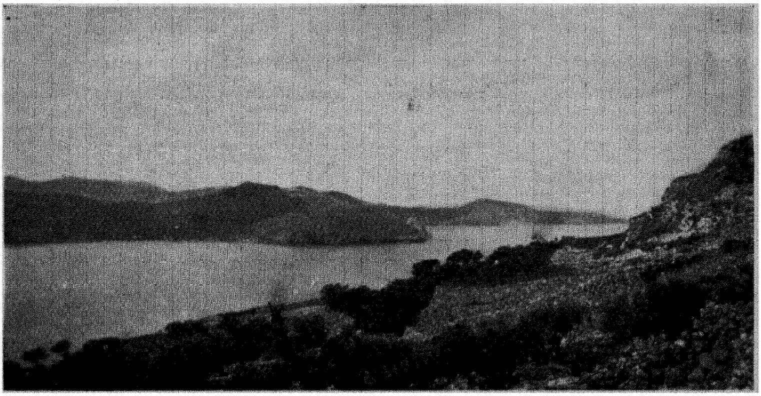


FIG. 4. THE GULF OF MELOS, IN THE CYCLADES ISLANDS

Notice that the hill-side in the right foreground is terraced in six ledges to provide arable land.

By courtesy of E. S. Foster, Esq.

A large number of the Greeks to-day and in the past have had to be seamen. They first used boats to carry their own goods about. Then they used their boats to carry other people's goods about, and later took to buying the goods before they took them on board, in the hope of selling them to other people who lived a sea-journey away. Thus the Greek became a merchant, a man who earns his living by buying what people wish to sell, and selling again to people who wish to buy. The result is that to-day a great proportion of the business of the Eastern Mediterranean is in the hands of the Greeks. But owing to the difficulty of defending the rim of the dish they have never in recent years been able to govern the whole dish. The eastern edge was given to the Greeks after the Great War, but the Turks took it away from them. A constant source of trouble lay in the control of the coasts by the Greeks, which enabled them to secure profits as merchants dealing in the goods that came and went by sea, and, in addition, to put taxes on these goods and so make them dearer for the purchasers in the inland

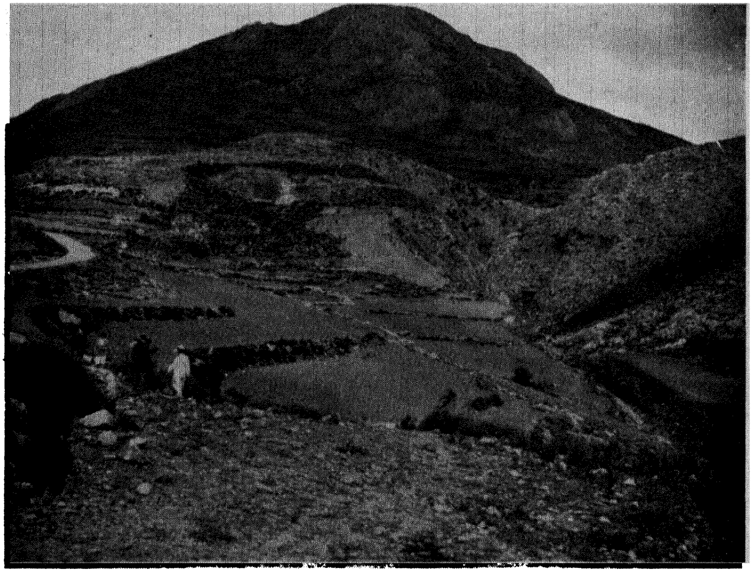


FIG. 5. THE SITE OF MYCENÆ, ON THE DRIER EASTERN SIDE OF THE PENINSULA

Most of the mountains are almost bare of vegetation.

By courtesy of B. Hobson, Esq. (copyright reserved) countries—Serbia, Bulgaria, Turkey. It really meant that the Serbians and Bulgarians could not use the sea without paying taxes for the privilege. Thus special treaty arrangements were made by which at Salonika and some smaller ports goods intended for these other countries could come in free of tax.

A country with a long summer of little rain, blue skies, bright sunshine, warm and at times hot weather, and no factory chimneys belching forth smoke is an ideal country for the holiday-maker. It is just the sort of country most British people would choose for holidays if they could afford to go. Such a country is Greece, but even this country has real disadvantages when it comes to earning a living. The high summer temperatures and the absence of rain mean that it is impossible to grow heavy crops, and impossible to keep pastures for the animals. In summer the streams dry up, so that man and beast are limited in their supply of water. The absence of factory chimneys is due to the fact that there is no coal, and so the Greeks cannot make many of the things which civilized people regard as necessities, but have to buy them and bring them from other countries. They cannot use their streams to generate electricity, because the streams dry up in summer.

The dry climate and the absence of coal mean that there is less opportunity of earning a living than there would otherwise be. This is why many Greeks leave the country every year to seek their fortunes abroad. In fact, so many men leave the country that in some districts the farmers cannot get enough workers to attend to their crops, so that the womenfolk have to do a great deal of the field-work. On the peninsula gangs of Albanians cross the frontier every year, and after working in the vineyards and elsewhere they return home with their earnings.

About half of the country is under cultivation, and half of the remainder under forest. More than half of the farm land devoted to grain is under wheat, but owing to the weather and the method of farming the farmer allows much of his land to lie fallow. The cattle are few in number, and are used not for milking, but to pull farm carts. There are nearly as many goats as people in Greece. The goat will supply milk from very scanty and varied pasture, and can make up for the absence of green grass by eating the leaves of trees and bushes. Sheep are more numerous than goats. The olive-tree is a very important source of oil for food. In good years olives are exported, but two out of every five years are usually bad ones for the olive crop.

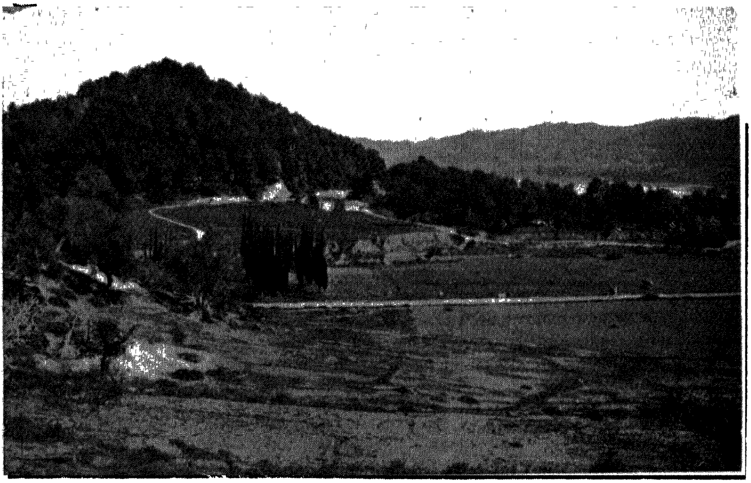


FIG. 6. THE SITE OF OLYMPIA, ON THE MOISTER WEST COAST OF THE PENINSULA

Notice the vegetation and cultivated ground.

By courtesy of B. Hobson, Esq. (copyright reserved)

The crop for which Greece is famous is the currant. It does not grow well anywhere else. The currant vine grows so readily that Greece can produce more currants than the whole world is willing to buy, much of the crop being turned into wine. Only one-thirtieth of the area of the country is devoted to their production.

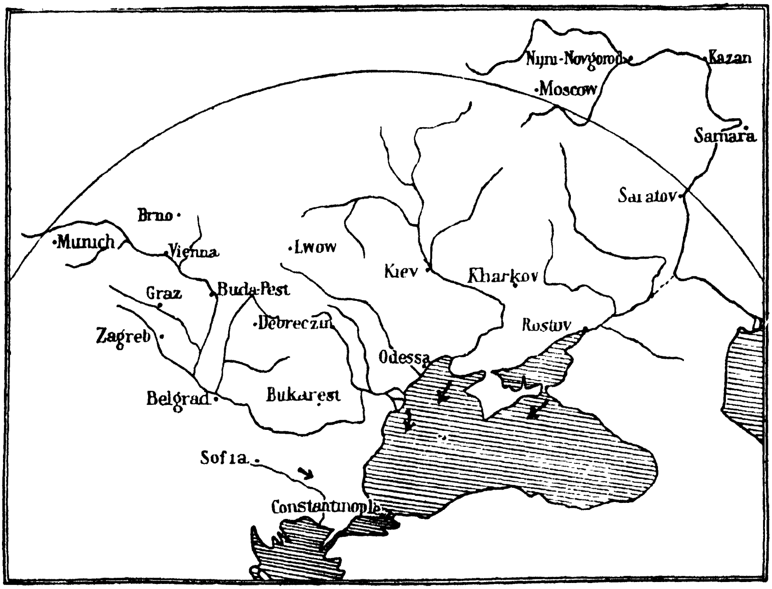
The value of the fruits—currants, oranges, and lemons—exported is practically 60 per cent. of the total exports. Although the majority of the people living on the mainland and on the islands are farmers, yet 20 per cent. of the total imports consists of grain for food. One of the most important industries is the mining and blasting of emery, but this employs only about a thousand workers. The emery is found in the island of Naxos, and is exported mostly to the United States and to Great Britain.

Though the population of Greece is only about five millions, yet the country boasts of two large towns. Their size really depends on the business of neighbouring countries; they are both ports. Athens is the seat of government, and Salonika is the chief port for the mainland north of Greece. The town of Smyrna, on the coast of Asia Minor, is larger than these two put together, and owes its importance to the fact that it is the chief port of Turkey in Asia, although its population is largely Greek.

Constantinople. The chief town of European Turkey, Constantinople (now called Istanbul), has, together with its suburbs across the straits, a population almost as great as that of the three towns Salonika, Sofia, and Belgrade combined. When the Emperor Constantine decided to leave Rome and found a capital in a more convenient and safer position he fixed on a small peninsula at the southern end of the Bosporus, the channel which joins the Black Sea with the Sea of Marmora.

For several centuries after the fall of Rome Constantinople was the seat of Government of the Eastern Roman Empire, which included the Balkan peninsula and Asia Minor. After its conquest by the Turks it became the capital of the Turkish dominions, which also included Asia Minor and the Balkan peninsula. Not until 1920 did it really cease to be the capital. Thus for hundreds of years soldiers, Government officials, and clergy made it their home. It was also the headquarters of the fleet, but the importance of the town and its growth have depended more on its convenience as a trading-centre.

Merchants from the countries round the Black Sea brought their amber and furs to the town; merchants from countries round the Mediterranean brought ivories and fruits and wines; merchants from Asia brought spices and precious stones. Some merchants came by land, but many more came by sea, the town being convenient as a place of exchange both for seafaring and land-travelling merchants. For this reason the town grew steadily. To-day the oil and wheat from South Russia have to pass through the Bosporus, and so do all the vessels taking goods to that region. Constantinople is therefore still on an important trade-route.



THE RIVER VALLEYS LEADING TO CONSTANTINOPLE

The arc of the circle divides off the land within 1000 miles of Constantinople.

PROBLEMS

1. How can the differences in temperature, summer and winter, between Salonika and Naxos be accounted for?

Town	January	July
Salonika . .	41° F.	80° F.
Naxos . . .	52° F.	78° F.

2. Express in words the seasonal differences between Belgrade and Athens as shown by the following figures:

Belgrade—Rainfall	Athens—Rainfall
January, 1·1 in.	December, 3·7 in.
June, 3·2 in.	July, 0·1 in.

State the effects which these differences would have on the appearance of the countryside.

3. In 1934 the value of the goods imported into Greece was nearly twice as great as the value of the goods exported. Can you suggest how the Greeks manage to pay the difference?

4. In 1934 the acreage (in thousands of acres) of the chief crops was as follows:

Wheat . . .	2,000	Olives . . .	380
Barley . . .	600	Vines . . .	380
Maize . . .	450	Currants . . .	180
Oats . . .	350		

Suggest why maize and oats are relatively unimportant grain crops. In which parts are they likely to be grown? Also suggest why such a large area is given over to producing fruits and olives.

II. THE DANUBIAN STATES

CHAPTER IV

THE LAND OF THE RUMANIANS

UNTIL fifty years ago the Rumanians were not the rulers of the country they inhabit. The reason for this is partly due to the character of the country. A range of mountains resembling the letter V cuts like a wedge between two river plains. Movement across these plains is fairly easy, and so it came about that the armies of two great empires, the Russian and the Turkish, could get at one another by moving over this flat land. The two arms of the plain were ruled by princes who were at one time under Russia and at another time under Turkey. The inside of the V consists of a raised tableland somewhat cut up by river valleys. The most secure parts of the area were the valleys among the mountains and those cut into the tableland.

Fifty years ago the peoples of the two plains united under a king and a central Government, but although the people of the tableland, or plateau, were of the same race and speech, they remained under the control of the Magyars, who lived and ruled the plain at the wide end of the V. Since the Treaty of Trianon the plateau region has come under the Rumanian Government. The land of the Rumanians now consists of a V-shaped plateau included between two plains, the backbone of the country being the Carpathians and the Transylvanian Alps. The name 'Transylvania' really describes the appearance of these mountains. It means the land beyond the forests. It is not strange that this name should have been given to the plateau, because trees are scarce on the plain, and the change from a treeless country to a forested country would be the first thing that a traveller would notice.

It has been stated that the mountains and plateau are cut up by river valleys. Rivers flow down from the inside and the outside of the V, but they all flow into the Danube. Unfortunately, none of them is of much use for boats. Even the great Danube itself, which flows along the southern arm of the V, has many serious disadvantages. This river varies in width from half a mile in some places to a mile and a half in others; thus it is a serious obstacle to movement north and south, although it is useful for boats going east or west. Its waters begin to rise in April, and reach their highest level in June; they are at their lowest—25 feet lower—in the autumn. Usually from the beginning of January to the end of February the river is frozen over. When the thaw sets in the ice is swept downstream, and great banks of it accumulate, and endanger the shipping. Special harbours of refuge have been built at a few places in order that the ships may

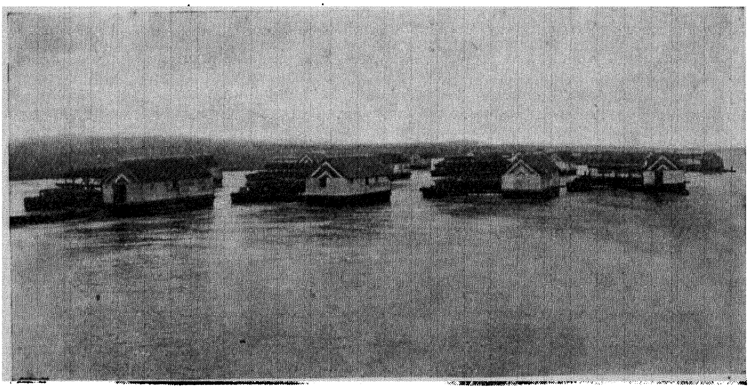


FIG. 7. **RUMANIAN WATER-MILLS ON THE LOWER DANUBE**

This picture gives some idea of the width of the river, the low country, and the use to which the power of the stream is put. Each of these huts contains the milling machinery, which is driven by the long paddle-wheel that projects behind the 'houseboat.'

Photo E.N.A.

escape being frozen in or being caught by the moving ice. This mighty river is blocked by ice for at least three months in the year, and since the other rivers lead into it many hundreds of miles of waterways are affected.

The chief tributaries flowing south and east from the Carpathians suffer from another disadvantage. The Danubian plain has been gradually built up from the mud and sand brought down from the mountains by these rivers. Sandy mud allows the water flowing in the river to leak away through it; this is called percolation. In the dry summer season, when the rivers receive little water, they can ill afford to lose any if they are to remain deep enough for boats. Now this percolation so reduces the volume of the water that even barges cannot pass along most of the rivers. The only useful ones, besides the Danube, are the Maros and Szamos, in Transylvania, and the Pruth, in Moldavia.

Rumania is a country of farmers of grain-lands and farmers of pasture-lands. Large farms grow most of the wheat and small ones most of the maize. There are no average-size farms. Half the land is occupied by farms of more than 250 acres, the other half by farms with under 25 acres. The peasant on the small farm, being unable to afford the best machines and manures, cannot get the best out of the land. He grows maize because it gives more grain to the acre and is suitable food for his chickens and oxen or pigs. The big farmer grows wheat to sell and export. It may be called a money crop, because it is grown to exchange for money, not to feed the people.

Rumania is among the principal countries for the export of both wheat and maize. When the country has recovered from the effects of being governed as part of other empires—Russian, Turkish, and Austrian—it may become the most important food-producing region in Europe. At present the people are poor, and half of them cannot even read or write. Good weather and good soil are of little use when there is not a wise, strong Government to care for and direct the work of the people.

There are three sorts of countryside in Rumania: the rather dry, level, treeless plain, the well-watered hill-country, and the forest-clad mountains cut up by the gorges of the rivers. Of the three main areas of the country, Wallachia and Moldavia include all three types of countryside; Transylvania consists of the hill and mountain type. In Wallachia for mile upon mile of almost level country there is in summer nothing but standing crops of maize and wheat. Owing to the lack of firewood and of streams and shelter the inhabitants are not spread over the country in homesteads, but are congregated in large villages.

In Moldavia the two main rivers flow in marshy valleys; the rest of the district is mostly low hill-country, in which the hills have a very gradual slope, are wooded on top, and have much pasture, as well as cultivated land with wheat, maize, and vines. The mountain areas in both Moldavia and Wallachia are clothed in forests of beech, oak, and fir, except the rounded mountain summits, which are bare or grassy areas. Between these two districts is the delta of the Danube, a kind of amphibious country in which the land- and water-surfaces are often indistinguishable. From April to June, when the river is high, practically the whole delta is under water.

In Transylvania the rivers have worn out narrow, flat-bottomed valleys which are some 300 feet below the main level of the plateau. Most of the people live in the strings of villages along these rivers. The uplands are used for grazing more than a million cattle and 2 million sheep. In some villages all the people speak German, in others Magyar, but in most Rumanian. The German-speaking people arrived when Austria ruled the country and the Magyars when Hungary ruled the country.

Transylvania is really rich in minerals. Just now only the deposits of brown coal and salt are being worked, and not in any great quantity.

At present a mineral more important than coal, which also comes from fossil vegetation, is petroleum. It is obtained from wells sunk into the ground among the foothills, especially in Wallachia. Oil-refining is one of the few occupations other than farming, flour-milling, and wood saw-milling. But the industries taken together employ only about a tenth of the workers.

There are no large towns except Bukarest, the centre of Government. It is also an oil-refining and a milling centre. The population of the town includes many Jews, Greeks, and Armenians. In fact, most of the 'business' is done by them. The Rumanians are almost wholly farmers. As there are no important industries the commerce of the country consists of exporting wheat, maize, or petroleum and in importing machinery and textiles. The port of Kustenji (or Constanta), on the Black Sea, is ice-free in winter, and is connected by rail with Bukarest, so that it may at some future date become a large town, the home of many workers engaged in the export and import trade.

PROBLEMS

1. The country is very thinly populated, and yet more than 10,000 people emigrate to the United States of America every year. Suggest some reasons for this.

2. The rainfall in the various parts of the country varies from 25″ to 40″. What influence has this on the occupations of the people in these different parts?

3. At Sulina, on the Danube delta, the average monthly rainfall in inches is

January	1	April	1	July	1½	October	2½
February	1	May	1	August	1½	November	2
March	1½	June	2	September	2	December	1

The heaviest rainfall commonly comes in summer and autumn throughout the country. If that is the case, how is it that from April to June the delta is inundated?

4. The average monthly temperatures at Sulina (in degrees F.) are as follows:

January	29	April	50	July	73	October	55
February	31	May	61	August	72	November	45
March	40	June	70	September	64	December	34

Assume that the plains of Moldavia have these temperatures. How is it that they have such extremes of climate between summer and winter? In which months would you expect (*a*) the grain plants to start growing, (*b*) the first harvests to be gathered, (*c*) the last harvests to be gathered, (*d*) ploughing operations to be impossible? Why cannot these questions be asked about Sulina itself?

5. Why do the people of the plains cluster together in villages for shelter, warmth, and water? Can you suggest another reason for their living close together?

6. Draw an outline map of Rumania showing (*a*) the boundaries of the country, (*b*) the rivers Maros and Szamos up to the crossing of the 1000-feet contour (limit of navigation for barges), (*c*) the crossing of the 300-feet contour (limit of navigation for steamers), (*d*) Jassy, at the limit of navigation on the Pruth. What do you notice about the limits of navigation and the western boundary? Which part of the country is farthest from navigable water, and how far is it?

7. Suggest why a single commodity, petroleum, should amount to 55 per cent. of the value of all the exports of the country. From the figures given in problem 8 suggest the next most important export, and give your reasons.

8. Out of the 33 million acres of ploughed land in 1933 maize crops covered 12, wheat 7·7, and barley 4·5 million acres. Compare these proportions with those of Yugo-Slavia and Bulgaria (problem 6, p. 20, and problem 1, p. 26, respectively), and suggest reasons to account for the differences.

CHAPTER V

THE LAND OF THE CZECHS

JUST as the land of the English would not be an accurate description of the British Isles, so the land of the Czechs is but a convenient short name for a group of countries which may be likened in some ways to the British Isles. Instead of England, Scotland, Wales, Northern Ireland, and the Irish Free State there are Bohemia, Slovakia, Moravia, Silesia, and Ruthenia.

The two groups of countries differ in that the former is surrounded by seas, while the latter is completely surrounded by land. A second difference is that the former is twice as extensive as the latter. The two groups are alike in that the countries comprising each of them are all governed by the one Government, except the last named of each group, which is partly independent.

One can journey from London to the capital of Czecho-Slovakia all the way by water, making only one change of boat, at Hamburg. The first four hundred miles are covered in twenty-four hours, but the next five hundred, beyond Hamburg, take four days. This slowing down is due to the fact that from Hamburg the journey is by a smaller river-steamer, which makes many stops at the various towns along the banks of the river Elbe before t reaches Praha (Prag, or Prague).

If you could understand only English you might not first notice that the people in Praha did not all k the same language. In this city many thousands only German and many more thousands speak There are two universities, one in which the teach- iven in Czech, and another in which the lectures erman.

Of the 14 million people who live in Czecho-Slovakia more than 3 million are German in speech and ancestry. In many of the towns there are separate elementary schools, in one the lessons being given in German, in the other in Czech. This is because the country was till 1918 ruled by German-speaking princes, who encouraged German people to settle in the country and discouraged the Czechs from using their own language. Most British schoolboys will remember that the blind King of Bohemia was killed at the battle of Crécy, and that the Prince of Wales took his motto *Ich dien,* which is the German for "I serve." As Bohemia adjoins Germany on the north it is no more strange for Germans to find their way into Bohemia than for Scottish people to find their way into England, the only difference being that the Scots speak the same language as the English, although they pronounce it slightly differently.

Praha does not look very different from many towns in Britain, except perhaps that there are more houses with over three storeys. Tall chimney-stacks are numerous. Inquiry would reveal that some of these chimneys are connected with steel works, others with glass works, others with cotton and woollen mills, and that yet others form part of sugar factories, breweries, and distilleries. A Czech writer of plays, Čapek, was so impressed by the use to which machines had been put both in his own and other countries that he imagined that the work would be better done by mechanical machine-minders, whom he called Robots, and he wrote a now world-famous play about these Robots.

Nearly half the people of Bohemia earn a living in the factories and works of the towns. The rest earn their living by trade, mining, or agriculture. Outside Bohemia most of the people are engaged in farming. Only a small proportion is employed in industry, trade, or mining.

Differences of occupation in the five provinces mentioned are due to the differences in the surface of the land and in the rocks underlying the surface. A very rough description of the country might be given by likening it to two saucers with a space between them. The saucer on the west is standing on its base, with the rim in the air; this represents Bohemia. The space between the saucers represents Moravia. The other saucer stands on its rim, with the base in the air; this represents Slovakia, Ruthenia, and Silesia. The picture would be rather less inaccurate if one imagined the whole to be covered by a waterproof cloth which reduced the sharpness of the edges.

Suppose that water were sprayed over this cloth. We should find the water trickling down towards the centre of the Bohemia saucer, running down the channel formed between the two saucers, and trickling down on all sides of the upturned Slovakia saucer. If this treatment were continued for a very long time one could imagine grooves being formed by the streams of water running over the area. Actually the Bohemia saucer is tilted a little, so that most of the water runs toward the north. The Slovakia saucer is tilted the other way, so that most of the water runs to the south, as does the water from the Moravia gap between.

The surface of the Bohemia saucer is cut into valleys by the tributaries of the river Elbe (Labe), the chief of which, the Vltava (Moldau) allows barges and small steamers to reach Praha. The chief river of the gap is the Morava, or March, which flows southward into the Danube. This river is not used by boats. The rivers of Slovakia flow too rapidly in the mountain valleys to be navigable, and, although sluggish in the plains, are variable in volume and encumbered by mud-banks. They have two unfortunate effects; they so cut up the higher land as to make journeys from east to west, either by road or rail, very difficult, and in the plains the water percolates (soaks) through from the river-beds and produces marshes, often at some distance from the actual stream, which again make movement east and west difficult.

Although only about a third of the people of Bohemia are engaged in farming, yet the countryside shows many more tilled fields than England. So many fields are used for growing grain and root-crops that there is not enough grassland to feed the animals. About one field in every five is used for growing clover, lucerne, and other green foods for the animals. The reason for this is that the weather and soil are well suited to grain and roots. The rather hot, dry summer enables the grain to ripen thoroughly, and the light, well-drained soils allow the root-crops to develop fully, and also allow the farmer to plough his land deeply, enabling the air and water to penetrate it.

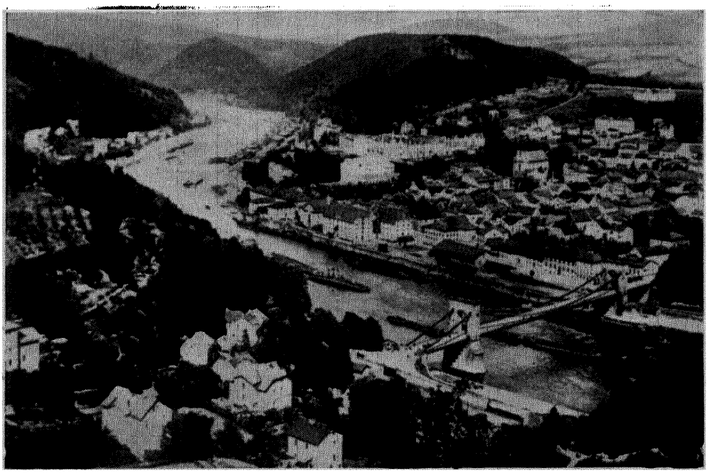


FIG. 8. THE RIVER ELBE

The Elbe is shown in the picture near the point where it leaves Bohemia and flows through a gap in the hills to Germany. The town is Teschen. Notice the long barges. How far is this from the sea?

Photo E.N.A.

A great many of the workers in the towns depend for their work on what the farmers grow—sugar factories depend on the sugar-beet crop, breweries on the barley and hops, distilleries on the sugar and potato. The very important sugar crop takes up only a small fraction of the ploughed fields, but in spite of this the farmers cannot grow enough grain to feed the workers and supply the breweries. Actually more money is spent in buying grain from other countries than is spent on any other import except textiles. About two million tons each of wheat and rye are produced, together with one and a half million tons of barley and oats.

Compared with those of England, the winters are cold and the summers warm, though not sufficiently warm to make the growing of maize a success. On the whole, the weather, except in the highlands, is drier. That is why more of the land is devoted to the growing of grain. All the months of the year are not equally wet. The months with most precipitation are June and October, but the winters often bring severe storms, and occasionally snow lies more than 10 feet deep on the highlands. In the most sheltered parts the thermometer falls below freezing-point on sixty days in the year, while in the higher, more exposed parts it does so on more than a hundred days. This cold interferes with navigation on the rivers and canals for a period of two or more months in the year.

The cold winters are helpful in that the frost tends to split up the soil, much in the same way as it splits our water-pipes at home. Such winters are a great disadvantage in that the snow covers up the grass and the cold makes it necessary for the farmer to build shelters for his animals and provide them with food. Here sugar-beet comes in useful again. The shredded pulp from the factories is brought back to the farms, tipped into trenches, and covered up with earth to form a store of cattle-food for the winter. But even with the help of beet, clover, and lucerne Czecho-Slovakia can only maintain many fewer animals than Yugo-Slavia, a country with a rather smaller population.

When the sugar-beets are harvested the green leaves are cut off, and the roots are taken in carts to a collecting centre, where they are put on railway-trucks or barges and sent to the factory. At the factory they are sliced up into shreds, to which water is added for washing out the sweet juice. The shreds are sent back to the farmer to be used as cattle-food or manure. The sweet liquid is evaporated to a thick syrup. This syrup is allowed to stand so that crystals of sugar form. Some of the syrup will not turn into crystals however much it is evaporated; this is sent to the distilleries and breweries. More than a hundred thousand tons of syrup are disposed of in this way every year. The crystallized sugar is packed, and some of it is exported from the country by barge down the river Elbe.

The sugar industry depends not only on the roots grown, but also on the supply of coal, which is needed for driving the machinery and evaporating the syrup. More coal is used for this purpose than by the iron-smelting blast-furnaces. This coal is mostly mined in the northern half of Bohemia, in Silesia, and, to a rather less extent, in Moravia. The amount produced is only about one-fortieth of that produced in Great Britain, so that it can only just supply home requirements. Soft lignite coal is mined along the southern side of the Erz Mountains, west of the Elbe. Bituminous coal like that of Great Britain is mined between Plzen and Praha, and in Silesia, near Ostrava. All the iron and steel works are situated on these coalfields, because the soft lignite will not make good coke, a necessary material in the manufacture of steel.

Dotted along the Erz-Elbe lignite field there are a number of small towns, some, like Karlsbad, making pottery from the local deposits of kaolin. Others spin cotton and wool, or weave cotton and woollen cloths.

At Plzen there are many breweries and distilleries, and within seventy miles of Praha are most of the sugar factories. Cottons, woollens, and sugar are made at Brno.

There is no industrial district in Slovakia. The country between the Tatra Mountains and the Danube is sprinkled with quite small towns. Most of them are little colonies of Germans or Magyars who have settled in the district to work the mines, the most important of which are those producing iron ore. The only large town is a port on the Danube close to where Austria, Slovakia, and Hungary meet. The town is called Pressburg by the German-speaking Austrians, Pozsony by the Hungarian Magyars, and Bratislava by the Slovaks.

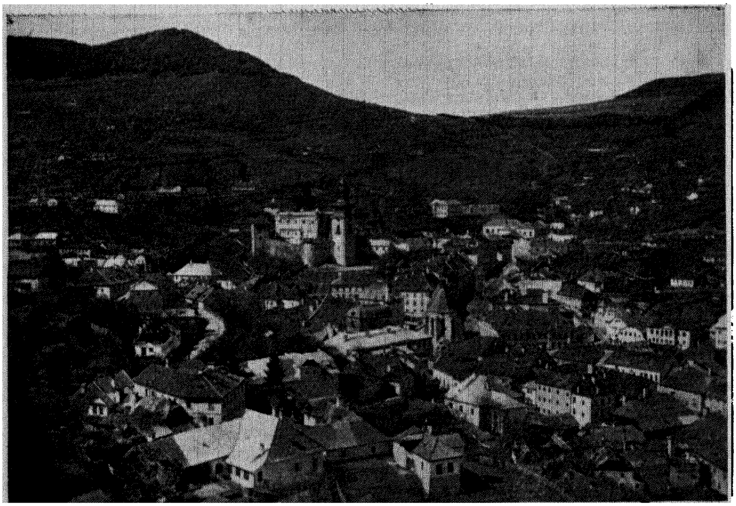


FIG. 9. SCHEMNITZ, IN SLOVAKIA

The rounded and wooded mountains in the picture are typical of the Carpathians. The summits shown are over 2000 feet high. The town is a very ancient mining centre, situated 19° E., 48° 30′ N., and known as Ban or Schemnitz.

Photo E.N.A.

Practically all the Slovaks are farmers or woodsmen. The mountainous nature of the country and the denseness of its numerous forests have kept the rural population rather isolated, and consequently it is rather backward in farming methods, in education, and in sanitary and medical arrangements. Many deaths occur without a doctor being called in. In Ruthenia, in the extreme east of the country, conditions are even more primitive. The people are for the most part very poor, living in log cabins without chimneys. Salt-mines employ a few who are not otherwise engaged in farming or lumbering.

The backwardness of the eastern districts is largely due to the difficulty of moving about the country. The numerous valleys make it difficult to construct roads and railways in the hilly districts, and the marshy nature of the river-banks in the plains also hinders road and rail construction. The rivers themselves are of use only for floating timber.

The Elbe and the Danube are both navigable. Germany is Bohemia's best customer. A quarter of the tonnage goes along the Elbe; coal, iron, sugar, and the heavier goods go that way. The Elbe is so convenient to the iron works that before the Great European War rod iron from Bohemia intended for Galatz was sent, not down the Danube, but either by rail or by the Elbe to Hamburg, where it was shipped to Galatz *via* Gibraltar. Some of the sugar from Moravia goes by rail to Trieste for export.

The most valuable things sent to other countries from Czecho-Slovakia are cotton and woollen textiles, iron, and steel; the next in importance are glass and coal. The sand, chemicals, and coal required for the glass works are all obtained in the country, as are also the beet and coal for the production of the sugar. In order to keep the wool and cotton mills working cotton and wool are imported, as well as cereals for the people's food, enough of which cannot be grown in the country.

PROBLEMS

1. If the population of Bohemia, Moravia, and Silesia taken together amounts to 10 millions, and 40 per cent. of the population is dependent on agriculture for a livelihood, about how many workers will there be otherwise engaged? What will be the type of work they do?

2. From the figures given below calculate the density of population in each of the districts named and suggest reasons to account for the differences you notice.

Province	Area in Square Miles	Population in Millions (1930)
Bohemia. . .	20,000	7·1
Moravia and Silesia .	10,000	3·5
Slovakia and Ruthenia . .	23,000	4·0

3. How would you explain why 20 per cent. of the imports come from Germany and why no other country sends more than 10 per cent. of the total? Why do the United States of America take little from the country, but send imports to the extent of 6 per cent.? Why does Austria send very little, but take 12 per cent. of the goods exported? What is likely to come from the United States of America, and what is likely to be sent to Austria?

4. From a study of the accompanying figures say what is the proportion of land under forest in each province of Czecho-Slovakia. How would you account for the different proportions?

Province	Area in Millions of Acres	Area of Forest in Millions of Acres
Bohemia . .	13	3¾
Moravia . . .	5	1¾
Slovakia . . .	12	4¼
Ruthenia . .	3	1¾
Silesia . . .	1	½

5. How would you account for the following sentences describing the conditions on the borders of Moravia and Slovakia?

(*a*) The Carpathians provide summer pasture only above 4600 feet.
(*b*) In the south the harvest is often as early as June.

(*c*) Snow falls in the Carpathians as early as September.

(*d*) It is customary at harvest-time for bands of Slovaks to seek agricultural work in the plains. . . . The farmers hire them in small parties.

6. How far is it from Praha to Kassa in Slovakia in a direct line? Draw a rough section of this route to show the number of hills and valleys that would have to be crossed.

How far is it from Praha to Kassa if the route chosen does not cross land which is more than 1500 feet above sea-level?

7. What reasons would you suggest to account for the fact that Bratislava is the largest town in Slovakia?

CHAPTER VI

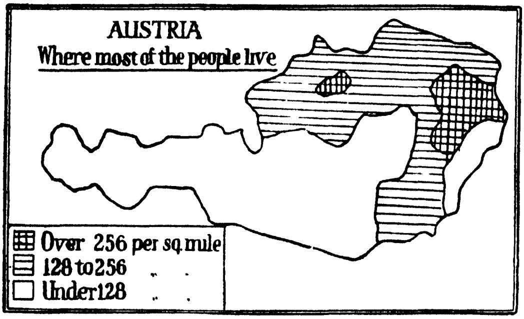
THE LAND OF THE AUSTRIANS

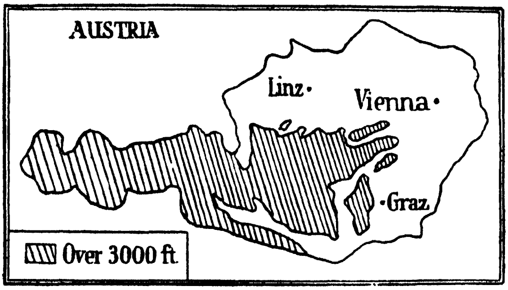
In the days of the Roman Empire soldiers and colonists worked their way across the enormous forest-covered mountain wall of the Alps by way of the deep river valleys in these mountain masses. The valley floors are frequently two thousand feet lower than the mountain heights that rise steeply on either side. Even to-day the mountain slopes are thickly forested. The valleys which in Roman times were dotted with little mining camps are to-day covered with farmsteads. The mines which supplied the Romans with gold, silver, copper, and lead are worked out or closed down for the most part.

Probably the easiest way to picture Austria as a whole is to imagine an oblong mass of mountains 150 miles long from west to east and 50 or more miles broad from north to south. Add to this a long, gradual slope from the eastern half of this oblong northward for a 100 miles to the river Danube, and also a 50-mile slope from the end of the oblong eastward to the Hungarian plain. These three parts are the main divisions of Austria. On the northern slope live 40 per cent. of the people, on the eastern slope 15 per cent., 30 per cent. live in the town of Vienna, and the remainder are to be found living in the scattered valleys between the mountain ranges in the oblong.

The slopes differ from the mountainous oblong only in that the valleys are wider, with less steep sides and relatively low land between them. Practically the whole of Austria is more than 1000 feet above sea-level. Nearly half the country is over 3000 feet high. This does not sound like a suitable country for farmers, and yet nearly all the Austrians living outside the one very large town of Vienna earn a living by working on the countryside. It is not surprising, however, to learn that not one-quarter of the land is used for growing crops.

A visitor to Austria in the winter-time would be struck by the coldness of the weather. There are several reasons to account for this. Of the two most important areas, one slopes northward down to the Danube and the other slopes eastward toward the Hungarian plain. This means that the cold winds can blow from the cold interior of Europe without much hindrance. To make matters worse, the chief valleys open out to the north-east or south-east, and form channels up which the winds blow. Also, the height of the land makes the temperature low.





The visitor from Britain in summer-time would notice how much warmer it was in the Austrian valleys than at home With light, variable winds and the sunshine streaming into the valleys the temperature of the air rises several degrees above that in Britain in the summer. The whole country is farther south than Great Britain, so that the sun is higher and the heat greater.

In winter it is likely that snow will be found covering everything; in summer it can still be seen on the higher parts of the mountains. Even glaciers are to be found in the highest valleys. The snows, glaciers, and fine mountain scenery attract many tourists every year.

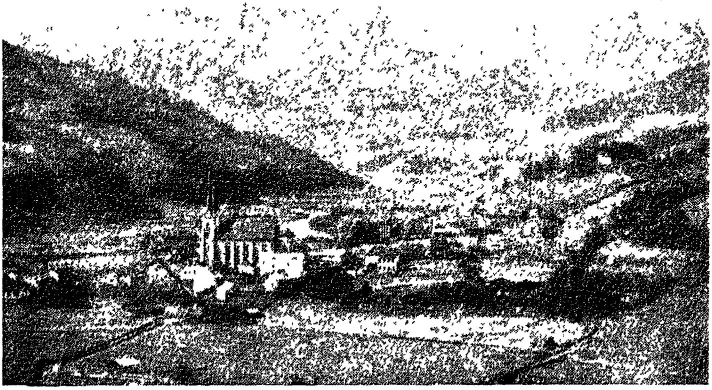


FIG. 10. ST JOHANN, TIROL

Compare this picture with that of Graz on page 55 Much of Austria consists of steep-sided river valleys, which gradually widen out as they approach the plain The high mountain walls make the weather very warm in summer, though they cut off many hours of sunshine, especially in winter

Photo E.N.A

Most farms in Austria are under 50 or over 100 acres in extent. Each farmer's holding as a rule contains a few fields for crops, a considerable amount of pasture, and some woodland. From the woodland he gets the fuel that he needs to keep his home warm in winter and the rough timber for his sheds and general farm repairs. The higher pastures are used by his cattle in summer, and the lower provide hay for the animals' winter food. Rye and oats together form two-thirds of the grain grown. These two crops are grown because they are better suited to the moist climate of a highland region. Oats are also useful as food for the animals. Potatoes are grown extensively, as they too are suited to a moist climate. Owing to the small area of land suitable for growing grain, the farmers of the country cannot produce enough to feed the 1,875,000 people who live in Vienna. Cattle and sheep are reared in considerable numbers, but the wool from the sheep is not enough to supply the factories in Vienna and the smaller towns.

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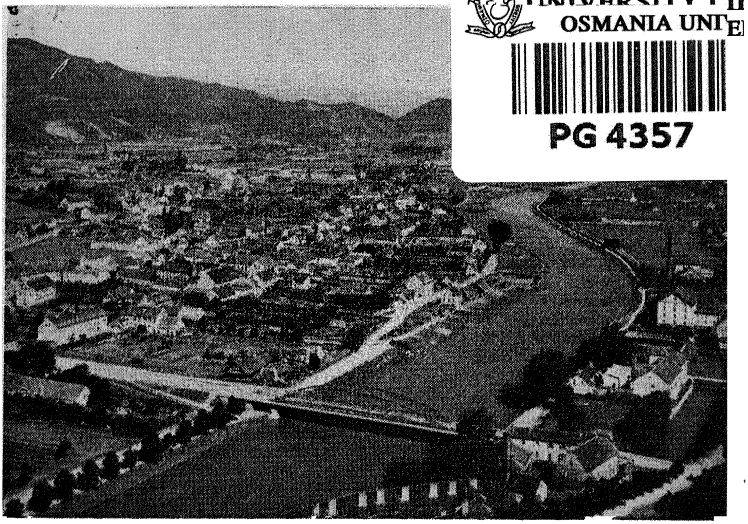


FIG. 11. GRAZ

This is where the river reaches the plain. How would you account for the absence of boats on the river? Look for Graz on your map, and suggest which way the river in the picture flows—toward or away from the camera.

Photo E.N.A.

A considerable amount of coal is required for use in the iron works, the factories, for heating, and also for the railways. Owing to the long climbs which the railways have to make in crossing such a mountainous country, they consume much coal—more than half of all that is produced in the country. Most of the coal is obtained from the eastern slope. Iron ore also is mined in this area. The centre of this activity is the growing town of Graz, the second largest town in the country. In order to keep factories, works, and railways going twice as much coal has to be imported as is actually mined in the country.

As the people of Austria cannot produce either all the food they need or all the coal they require, one may wonder how they earn enough to pay for these things. Before 1914 the people of Vienna made cloth, carpets, iron goods, and furniture for those who lived in the countries then ruled by Austria. And as Vienna is situated at the crossing of the routes from Italy to Poland, Germany to Hungary, Bohemia to Yugo-Slavia, it is a suitable place for merchant and banking businesses to develop. By the Peace Treaty of 1919 Austria lost its chief provinces, and this upset its business arrangements. The Viennese suffered in consequence, as for several years there was little merchant or manufacturing work to be done, and little money earned to pay for the necessary food. To-day the business is increasing again. But because the country is not suited to the production of much food a large number of the people have to produce goods that are required in other lands in order to pay for their food. Manufacturing without local coal-supplies is a difficult problem. However, it is likely that the many mountain rivers will in time be harnessed to produce electricity to drive the railways and thus save coal, besides supplying power for factories. For the last few years timber from the forests, and timber made into furniture, have been the two really important exports from the country.

Austria is situated between Germany on the north and Italy on the south. Two consequences of this are that the people speak German and that in religion they belong to the Roman Catholic Church. Austrian princes once ruled North Italy as part of their country, and received support from Catholic Italy against the Protestants. The Austrian people are descended from the German-speaking tribes who originally peopled the valleys.

PROBLEMS

1. Draw a rough section across the country through Graz and Innsbruck. Mark where the railways cross this line, and also the chief places which these railways connect. What is the distance between the crossings of these two railway-lines?

2. The eastern third of Austria, Upper and Lower Austria, has an area of 12,000 square miles, 3·1 million acres of which are cultivated. The remainder of Austria has an area of 20,000 square miles, of which 1·8 million acres are cultivated. Calculate the percentage of cultivated land in Eastern and in Western Austria respectively. Suggest reasons to account for the difference. Of what use is the remainder of the land surface?

3. The Danube is the only navigable river. It is navigable from the western to the eastern frontier. How many miles is this? Of what use is the river likely to be for home trade and foreign trade?

4. Although only one river is navigable, how do you account for the fact that the four chief towns, Vienna, Graz, Linz, and Innsbruck, are all situated on rivers?

5. It is estimated that 2,500,000 horse-power of energy will in the near future be obtained from the rivers. Suggest how such a small country would be capable of obtaining and applying such a great amount of power.

CHAPTER VII

THE LAND OF THE MAGYARS

It is believed that in the days long before man settled in this part of the world Hungary was a sea surrounded by dense forests. The climate gradually changed, and the sea was gradually filled up by the mud and sand brought down by the rivers. In time the alluvial deposits—that is the name given to the sand and mud—completely covered the remains of the forest.

Why is it believed that this is how Hungary was formed? Firstly, because the soil lies like a very deep sandy or muddy layer over most of the country. Secondly, because the rivers do still bring down a good deal of mud and sand. Thirdly, because deep down under the soil in the south and north deposits of brown and black coal have been found. Fourthly, because scattered over the countryside are many small, shallow lakes or lagoons, possibly all that remains of the original sea. The largest of these is Lake Balaton, which is over 50 miles long.

The people who live in this old sea-bed are the descendants of the nomadic horsemen who invaded the country from the south of Russia about the time when England was being invaded by the Danes. These people brought their own language, which is quite different to-day from the language spoken in any of the surrounding countries. When they arrived in the country they found a level, grass-covered plain with few trees and numerous marshes by the rivers. It was a country very like the prairies of Canada. As the centuries passed they learned to till the soil. The soil is very fertile, and to-day at harvest-time one can see miles upon miles of golden grain crops.

Although the country can produce much grain food, yet it has a number of disadvantages. These disadvantages probably induced the Magyars to aim at controlling the surrounding countries. Hungary has practically no forests, and so has no wood for building or fuel. An alluvial soil makes poor roads, and provides no stone for road-metal. Also, there are practically no mineral deposits in the plain. But wood, stone, and minerals are to be found in abundance in the surrounding countries.

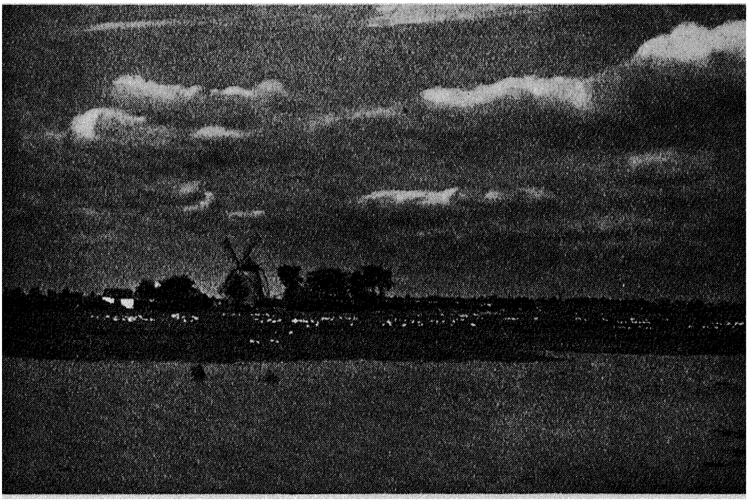


FIG. 12. A VIEW ON THE RIVER TISZA

Notice the level countryside, the windmill, the trees to screen the farmstead from the wind, the marshy banks of the river, and the geese (the white dots).

By courtesy of the Hungarian Legation

The difficulty of making roads has led the people to make use of the rivers, and in recent years to build railways. A level land results in slowly flowing rivers on which boats can go upstream and downstream without much difficulty. It also means that the building of railways is fairly simple,' because there are no tunnels to be dug out and no deep valleys to be bridged. The two chief rivers in Hungary are the Danube and its tributary the

Theiss, or Tisza, both of which are navigable for river-steamers throughout their course within Hungarian boundaries. Unfortunately, their junction is just over the border.

The only high ground, the Bakony ridge, is well wooded, but is incapable of supplying any more than a small fraction of the country's requirements in timber. This high ground is a ridge running from the south-west across the course of the Danube toward the north-east, where it forms the boundary with Slovakia. The ridge divides off the small, slightly elevated Little Hungarian plain from the Great Hungarian plain of the Danube and the Theiss.

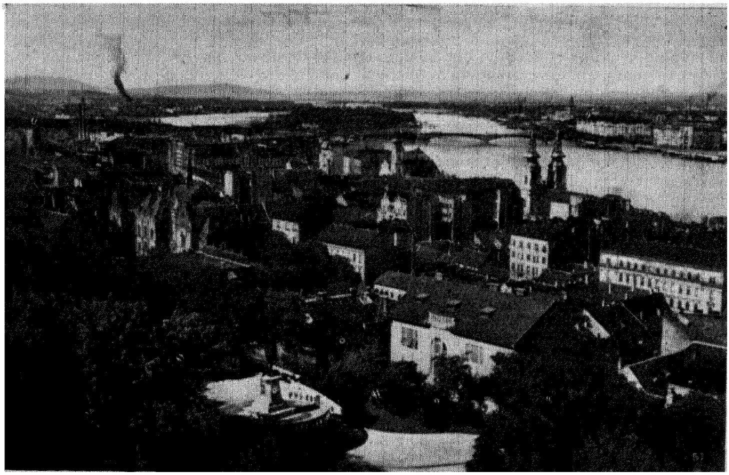


FIG. 13. BUDA-PEST

Showing the island in the middle of the river (the Danube).

By courtesy of the Hungarian Legation

The railways of the country run in all directions from Buda-Pest like spokes from a wheel, the circumference of the wheel being formed by the Carpathians on the north and east, the mountains of Yugo-Slavia in the south, and the Alps in the west. Buda-Pest is situated at the entrance to the gap which has been made by the Danube through the Bakony ridge. It became the railway-centre for the whole district when this area was all under one Government, that of Austria-Hungary. It is for this reason that it is such a very large town. It has a population of nearly 1,500,000, though the population of the whole country is to-day just under 9,000,000. The other large towns are Debrecen, in the north-east, and Szeged, in the south-east. They are different from most European towns in that they are each spread over some 300 square miles. They are really collections of villages, in which most houses have land and orchards attached to them. This is why the towns take up so much space. As the people do not work in great factories we do not find the houses crowded together round large works.

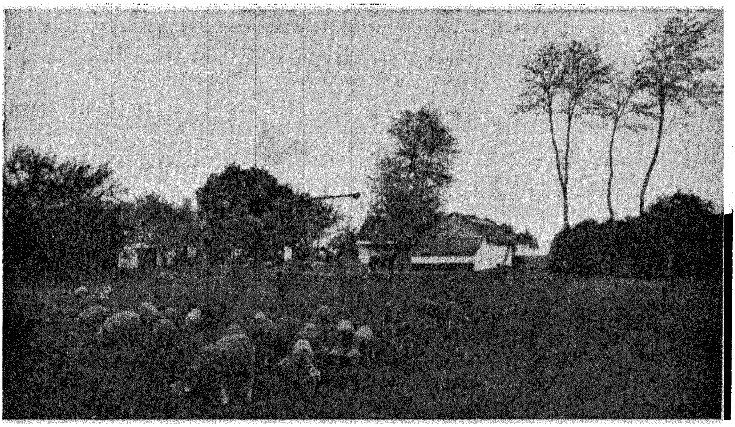


FIG. 14. A HUNGARIAN FARMSTEAD

The weighted pole is used to raise water out of the well. Notice the sheep pigs, and horses.

By courtesy of the Hungarian Legation

The Magyars are essentially a farming people. Even in the large towns most of the business is carried on by Jews. On the fertile level plains are to be found the substantial residences of the gentry and the mean, rough dwellings of the peasantry. In other parts, where the soil is not quite so good, the drainage poor, or the surface liable to flooding by the rivers, we find extensive grass-covered stretches of land on which horses, sheep, and cattle are reared. Dotted about on these almost treeless areas are the low, barnlike houses that are inhabited at intervals by the shepherds or herdsmen. When the land in the vicinity can no longer supply the animals with enough food, men and animals move to another part.

Compared to British weather, that of the Hungarian plain is very hot in summer and distinctly cold in winter. The higher summer temperatures enable the farmers to grow maize, while the colder winters make the scarcity of fuel a real problem. The Magyar peasant wears such thick woollen clothes that travellers in the country describe them as being thick and strong enough to last a lifetime. The weather is also drier than in practically every part of Britain. This dry climate suits crops such as wheat and maize, though it is not good for pastures. Thus we find that the cattle are used more for pulling the farmers' machines and wagons than for providing milk and butter. The oxen that are used for draught purposes are very striking in appearance, with horns often more than 3 feet long. They are slower, but more hardy than horses.

Hungary has no sea-coast, so that it must export its surplus through or to the surrounding countries. Now Rumania and Yugo-Slavia themselves produce more grain than they need, so that Hungary's exports tend to go to the countries to the north-west, Austria and Germany, where the industrial populations are dependent on food produced in other countries. The imports of textiles and metal goods also tend to come mostly from the north-west. Since the Danube comes from the north-west it is a valuable channel for trade. Large numbers of steamers and great barges go to and fro on this river.

PROBLEMS

1. The four most important crops grown in Hungary and the area devoted to growing them are shown in the following figures:

3·9	million	acres	of	wheat	produced	in	1933	26	million	quintals	of	grain
2·8	,,	,,	,,	maize	,,	,,	,,	18	,,	,,	,,	,,
1·6	,,	,,	,,	rye	,,	,,	,,	9½	,,	,,	,,	,,
1·2	,,	,,	,,	barley	,,	,,	,,	8½	,,	,,	,,	,,

Give suggestions to explain why more ground is devoted to wheat and maize than to rye and barley, and also why maize, usually the most productive crop, does not entirely replace the others.

2. The four most important exports are

Poultry . . .	7	per cent	of the	total
Wheat . . .	11	,,	,,	,,
Animals . . .	13	,,	,,	,,
Electrical apparatus .	6	,,	,,	,,

How do you account for the fact that maize is not one of the chief exports and that poultry is?

3. Explain why the following commodities form the greatest proportion of imports:

Cotton and silk	11	per cent.	of the	total
Wood and wooden goods . .	9	,,	,,	,,
Coal and mineral oil . . .	8	,,	,,	,,

4. How would you account for the fact that 30 per cent. of the imports come from Austria and Czecho-Slovakia and that 33 per cent. of the exports go to these same countries?

5. In the United States the amount of coal consumed works out at an average of 5 tons per head of the population, in Belgium 4 tons. Hungary produces from the mines of the country 7,000,000 tons a year, which is just under 1 ton per head of the population. Will it be necessary to import the equivalent of another 3 or 4 tons per head? In giving your reasons consider the climate of the country and the occupations of the people.

III. THE GREAT PLAIN STATES

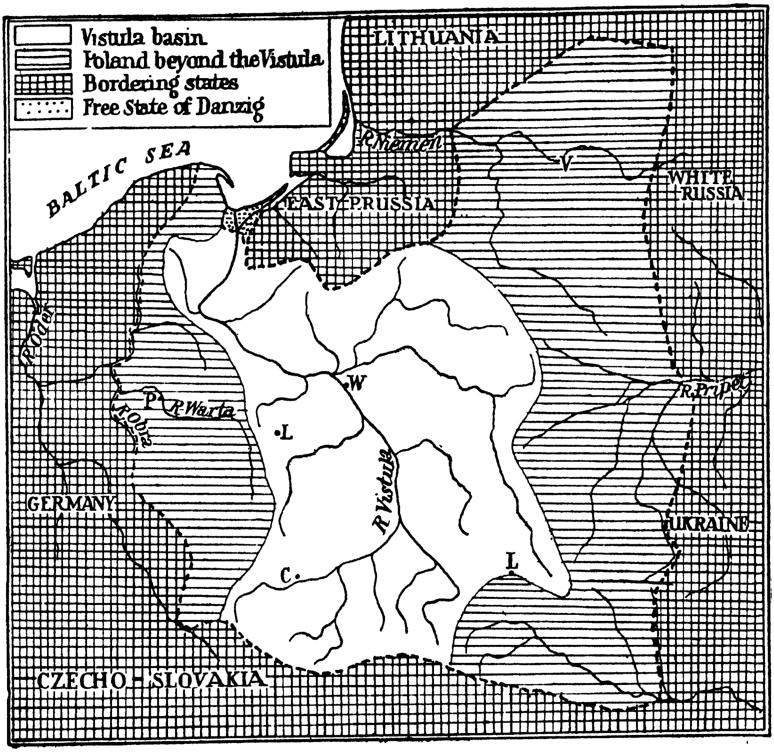
CHAPTER VIII

THE LAND OF THE POLES

In the days when people were collected together in little groups and governed by a tribal chief or by a baron or petty king there were very few people living in Europe. These groups of people had little to do with one another, and were often separated by mountains, forests, marshes, seas, or wide rivers. As the number of people increased they needed more land for their crops and animals, forests were cut down, marshes drained, rivers bridged, and roads built to bring together the people in their ever widening settlements. As time went on all the best land was used by some one or other. If any person wanted more land he could have the poorer land or try to take the better land away from settlers of the adjoining group. This naturally led to disputes, and whole tribes fought in order to support those members who had begun the quarrel. In the course of hundreds of years agreements were made between the disputants as to which parts of the country each should have.

Now mountains and rivers form convenient marks on the ground, marks that cannot be rubbed out to suit the convenience of rival people. Thus mountains, rivers, seas, often became agreed boundaries. But what is to happen in parts where there are no large rivers, mountain ranges, or narrow seas? The chances are that unless the groups of people are very wise disputes will frequently arise, and fighting will result.

The Poles were a group of people who grew from very small beginnings somewhere in the forests through which the river Vistula flowed. Rivers are the most convenient ready-made routes through forests. Thus we find this group of people spreading their settlements throughout this forested region not very far from the rivers. In time the Poles came into contact with other groups of people who were increasing in numbers and pushing into the unused parts of the country. Disputes arose between the Poles and their eastern neighbours, the Russians, and also with their western neighbours, the Germans.



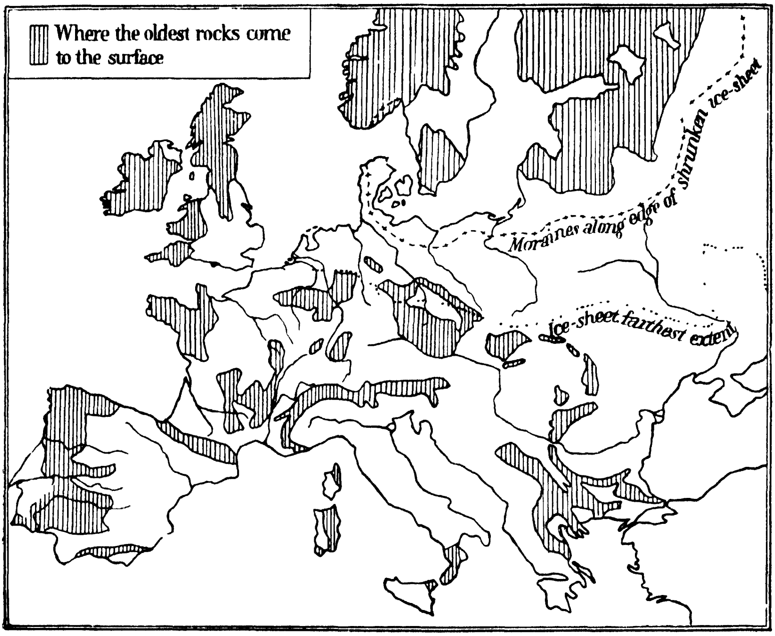
The Vistula Basin and the Polish Frontier
Notice the central position of the capital, Warsaw.

The last attempt at an agreement was made as late as

1918. But even then no convenient marks on the countryside could be found which might be accepted as a boundary to the country. The boundaries on the east and west are largely artificial—that is, there is no surface feature to divide the country governed by Poles from that governed by the Germans or Russians. The rivers, the valleys, and the mountains all run from east to west. This means that the boundaries have to cut across mountains, rivers, and valleys.

It is interesting to inquire why the country developed this unfortunate shape, with parallel hills and valleys. If one could take a journey along a straight line from the town of Königsberg on the Baltic coast to Salonika on the Ægean Sea the first third of the journey would take one from the north to the south of Poland, right through the centre of the country, where the town of Warsaw is to be found. The first part of the way would be through low-lying country, then through a district broken by hills of no great height and dotted with many small lakes. The traveller would then have crossed one of the wide valleys that run east and west, but a valley so shallow and wide that its nature might escape notice. Then he would leave this lake-sprinkled region and enter a second, even wider valley. Again the heights are so low that an ordinary atlas does not show them. The bend in the river Vistula shows the direction of this valley, along the bottom of which it flows. After crossing the Vistula at Warsaw the traveller would very gradually rise to the plateau which is the approach to the Carpathian Mountains. These form the southern boundary, dividing Czecho-Slovakia from Poland.

Those who have made a special study of this region have noticed several facts, all pointing to the same conclusion: the clay of the valleys is the sort of clay that is made by glaciers; the ridges of sand which seem to run in streaks across the country are like the ridges of sand which are left when the end of a glacier thaws in the summer-time; many of the smaller hills are made of heaps of stones such as are seen at the end of glaciers; and many of these stones show scratches like those found on stones that have been ground at the sides or bottoms of glaciers. Apparently this part of Europe was at one time under a huge glacier, or great sheet of ice. It is not there to-day; we assume that it has disappeared because the weather became warmer. The streaks of sand and ridges of stones in Poland are believed to have been formed at the edge of this ice-sheet. Each time the weather became warmer the edge of the glacier thawed, and a heap of sand and stones collected at the side. So to-day these streaks across the country mark the positions of the edge of the ice as it retreated northward in the shrinking process due to thawing.


▥ Where the oldest rocks come to the surface
Moraines along edge of shrunken ice-sheet
ice-sheet farthest extent

Water will only run downhill, and if on the downhill slope there are scattered heaps of rubbish, the water will collect in puddles among these. The gentler the slope the more readily will the water collect. This is apparently what has happened to the north of Poland, and the result is a countryside dotted with lakes of all sizes and shapes. The ground round the lakes is very sandy and stony, so that it is of little use for growing food-plants. To-day there are many plantations of fir-trees on these hillocks of sand and stone, this being about the only use to which man can put such land.

Under most of the sand and stone is a thick layer of glacier-formed clay, called boulder clay. One of the most important properties of clay is that water cannot soak through it readily. We have already noticed that the land is almost level, so that the water will not run off rapidly, and since the water cannot soak away through the clay it tends to remain in the surface soil for a long time, and form marshes in the wetter periods of the year. The bottoms of all the valleys are marshy, and the rivers for many miles flow slowly between marshes. This fact makes it difficult to approach the rivers and difficult to bridge them. It tends also to make the land near the rivers unhealthy for human beings.

Both on the east and west Poland is partly bounded by marshes. On the east are the marshes of the Pripet, a tributary of the Dniester. On the west are the marshes of the Obra, a tributary of the Warta. On the north the boundary runs for most of the way along the edge of the sandy, lake-sprinkled region, except in the north-west, where it crosses to the sea-coast.

Three-quarters of the Polish people are engaged in agriculture. This means that the kind of work they do depends on the soil and weather. It has already been noted that the country is rather flat, and that clay covers a large part of the surface, so that it is difficult to get rid of the water. It is not surprising to find that most of the people live in the southern, higher part of the country.

On the average there are twice as many people living on a square mile in the south as there are in the north. The weather is practically the same throughout the country. The winters are colder and the summers warmer than those in Britain. For three months in the winter the country is frost-bound—the rivers will not take boats, and the ground will not take the plough. The amount of rainfall is distinctly less than in Britain, but reliable in amount from year to year, and sufficient for growing crops. The winter ends rather suddenly with a rapid thaw, the country becomes covered with mud, the rivers flood their banks, and many roads become impassable. The winds, which for most of the year are from the south-east, tend to be more frequently westerly in summer, and two-thirds of the year's rainfall comes between April and September. There is usually only a thin coat of snow on the ground in winter.

The farmer's work is thus hampered first by the frost, then by the mud, and then by the heavy rains. He dare not sow his grain in the autumn before the frosts because the snow covering is rarely enough to protect the grain in the soil.

More than half the country is plough-land, and about half the remainder is forested. Two-thirds of the ploughed fields produce crops of grain. More ground is given over to rye than to wheat, barley, and oats together. Oats in the same way are as important as barley and wheat together. Most of the wheat is grown in the higher, drier, and better-drained south. Potatoes are the next most common crop, but sugar-beet is very important, and so heavy a crop can be obtained that not many fields are required to produce all that at present is needed.

The countryside is divided into either very large estates or very small farms. Two-thirds of the farms are less than half the size of the average English farm. It can readily be understood that the farmers on the very small farms are not wealthy people. They usually leave their farms for a part of the year to earn money on the large estates. Some leave the country to seek their fortune in other countries—America, France, and Germany. If the farmers are poor they cannot afford expensive manures or expensive machinery which would enable them to make the best use of their land. The result is that they have practically no surplus from the crops to exchange for manufactured goods. Thus the amount of trade done is much smaller than that of most other large European countries.

Nearly all the towns—*e.g.*, Poznan (Posen)—are merely market-centres where the farmers exchange their produce and animals and get such simple equipment as they require for their work. A large proportion of the merchants are Jews, and many towns have a big Jewish population. Their successful competition with the Poles leads to a great deal of jealousy.

The industries in the larger towns are dependent on the agriculture of the district. Sugar refineries, distilleries, and breweries are common. Most of the potato crop goes to the distilleries, and the beet crop to the sugar factories. Spirits, beer, sugar, and starch are the more important commodities produced.

As the amount of trade is not great, and the rivers are useless for three months in the winter, and difficult to navigate in the drier autumn, not very much use is made of the great system of rivers which flow into the Vistula, though its tributaries penetrate almost every part of Poland. The level land makes it easy to connect the main rivers by canals, and the Vistula is connected by canals with the Warta and Oder on the west, and with the Bug and Dniester on the east; but only small boats can use them. Steamers can reach Cracow, but wood and coal are about the only important cargoes going downstream. Barges are built to take cargoes to the sea-coast, and are there broken up, never to return.

The wood and coal which are sent down the Vistula come very largely from the provinces of Silesia and Galicia, in the south. The mountains in this territory belong to the outer of the two parallel zones into which the whole Carpathian range is divided. These chains of mountains are of very regular height, and their wooded sandstone ridges stretch from one end of the country to the other. Under the surface rocks in the west beds of coal are found, and in the east petroleum can be pumped up from layers of rock 3000 feet below the surface.

Coal is mined in the district in which Cracow is the only large town. The petroleum wells are nearer to the other large town in the south, Lwow (Lemberg). The amount of oil produced is steadily diminishing, and may in the near future become unimportant in quantity, unless new producing areas are discovered. The coal, though considerable in amount and in very thick seams, has the great disadvantage of not making good coke, which is necessary for the steel-making. It can, however, be used for melting the metal for castings and generally for the manufacture of machinery.

The coal is chiefly used for stoking the boilers which supply the steam for the machinery in the sugar factories, distilleries, and textile factories of the towns. Two very large towns in the heart of Poland owe their large population to their manufactures. Lodz and Warsaw have many works and factories where iron, cotton, and woollen goods are made, and their total output is practically large enough to satisfy the needs of the country.

Wood, coal, and metal goods are the most valuable things sent out of the country. Into the country come cotton, flour, wool, iron, and machinery, besides chemicals, but their total value is only about the same as that of the exports. The foreign trade of the country is small, because the country supplies its own requirements very largely, and these requirements, owing to the general simplicity of life, are few.

At Wieliczka, in the south-west of the country, are some famous salt-mines. The beds of salt are in places about 60 feet thick. This is not a very valuable mineral, so that it is not given as one of the important exports.

PROBLEMS

1. In 1931 the populations of the chief towns in Poland were:

Warsaw .	1,200 thousand	Vilna . .	200 thousand
Lodz . .	600 ,,	Cracow . .	200 ,,
Lwow .	300 ,,	Poznan (Posen)	250 ,,

Describe in words the exact position of each town. Measure the distance of each town from Warsaw, and state in what direction from that town it lies. Suggest why these towns have grown so large and why some are larger than others.

2. Draw a map of Poland and shade in the part of the country that is more than 25 miles from the river Vistula and its tributaries. (25 miles may be taken as a good day's journey.) About what fraction of the map is shaded?

3. What geographical reasons, or what characteristics of the country, have led 4 million Poles to emigrate to the United States? Are there any conditions that make the earning of a good living difficult?

4. Study the figures in the following table:

COUNTRY	POPULATION	EXPORTS TO BRITAIN IN 1934	IMPORTS FROM BRITAIN IN 1934
Poland . .	33,000,000	£7,400,000	£3,000,000
Denmark . .	3,500,000	£35,400,000	£13,000,000

Both Poland and Denmark are essentially agricultural countries. How is it, then, that the smaller country does so much more business with Britain?

5. The acreage (in millions of acres) of the chief crops in 1933 was as follows:

Forest . . .	20·0	Oats . . .	5·4
Rye . . .	14·3	Wheat . . .	4·1
Potatoes. . .	6·8	Barley . . .	2·9

What do these figures suggest with regard to the food which the farmers eat and the goods they will be able to market? Note that bacon, butter, and eggs are exported.

6. In 1934 the values in millions of zlotys of the exports were:

Wood	189	Zinc	29
Coal	169	Bacon, butter, eggs	78
Metal and metal goods	86		

The values of the imports in millions of zlotys were:

Metals and metal goods	84	Wool	82
Chemicals	51	Machinery and metal goods	140
Cotton	113		

Why are chemicals imported? Where does the cotton and wool go to? Has the position of the coalfields or the quality of the coal any influence on the import of metals or machinery?

CHAPTER IX

THE LAND OF THE RUSSIANS

THE past history of the Russian people has not been by any means a continuously happy one. There are at least three reasons for this which can be traced to the land in which they live. If you look at an atlas you will see that Russia lies between four inland seas, that within its borders there are many rivers of considerable size, and that the whole country is so flat that it enables people to move about freely in almost any direction providing they can cross the rivers.

It was the rivers which first led to trouble. Both before and about the time of King Alfred the peoples of England were troubled by Norsemen who came to their coasts, and sailed or rowed up the rivers, plundering the villages and farms. Some of these Norsemen settled in the country and took over the farms, having driven off the owners or enslaved those who remained. About this time similar events were taking place along the rivers in the lands now called Russia.

The two most important rivers, along which traders from the Eastern Empire (the centre of which was Constantinople) were accustomed to travel, were the Dnieper and the Dvina. There were several settlements along this route where traders used to meet and do business. The chief of these was Kiev. These warlike Norsemen, making use of the river-ways, soon gained control of the settlements, and became more powerful by collecting money or goods from the traders who wished to stay in or pass through their conquered towns and villages. In the end they became the ruling nobles and princes in the districts they had conquered. As time went on not only goods, but a new religion was brought up this route by the missionaries of the Eastern Church. The arts of writing, reading, and building gradually spread in this way, brought by people who had been to the cities of the Byzantine Empire. All seemed to be going well, and a Russian Government was centred at Kiev, in the basin of the Dnieper. This Government ruled over an area that corresponds to the Ukraine of to-day. The name Rus was given to the people of this district. It was originally the name given to the Norsemen, and meant "rowers"—the folk who had rowed their boats down the rivers and conquered the people already settled in the district.

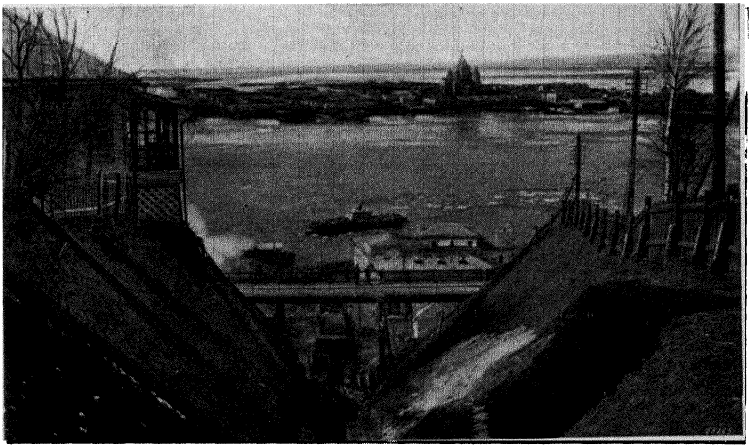


FIG. 15. GORKI (NIJNI-NOVGOROD) AT THE JUNCTION OF THE OKA (FOREGROUND) AND THE VOLGA (BACKGROUND)

At one time famous for its fairs, Gorki is now an important centre for making agricultural machinery.

About the time of the Hundred Years War the land of the Rus was invaded by fierce nomadic horsemen from Asia. They crossed the flat southern plains with little difficulty, overcame the resistance of the Rus, and sacked Kiev. These folk, who were essentially robbers, have made great efforts to organize the work of all the citizens to that end. They have taken advice and help from engineers and scientists of many nations, and have made plans of work to be attempted in periods of five years.

Ten years ago they had millions of farmers who could not even read, and were quite incapable of understanding and using modern farm machinery, millions of tons of coal in the earth that could not be used because there were practically no furnaces for smelting metals or works where farm machinery could be made, and millions of acres of good land that needed modern methods of cultivation in order to give better harvests. So schools were established where grown men and women, as well as children, could learn to read and to write, and also learn how to handle machinery. New coal-mines were opened up to the south of Moscow, east of the Ural Mountains, and between the rivers Don and Dnieper. Great modern furnaces were put up to smelt the iron ores, and railways built to bring the coal to them. Enormous works were erected to shape the metal into machinery of all kinds. Around these works towns had to be built to house the workers. These towns have grown so fast that some of them already have populations approaching half a million, where ten years ago there was only open country. The countryside itself has changed in appearance, because the many little farms around each village have been joined up into one great State or collective farm, on which all the peasants share the work—ploughing, seeding, and harvesting.

The most productive coalfield is in the basin of the river Donetz, with supplies of iron ore just across the river Dnieper. The coal supplies the great power-station of Dnieprohes (Ekaterinoslav), on the electric railway from Moscow to the Crimea, and the iron and steel furnaces which supply metal to the machinery works at a ring of towns, Kharkov, Voronezh, Stalingrad (Tsaritsin), and Rostov.

The second coalfield, around Tula, supports the activity of millions of workers in and around Moscow. The third industrial region, stretching from Sverdlovsk (Ekaterinburg) to Orenburg, relies on Siberian coal. All the important metallic ores—copper, zinc, nickel, and aluminium, besides platinum and gold—are mined in the Urals and smelted in this region. Probably the largest of the new towns is Magnitogorsk, which lies half-way between Sverdlovsk and Orenburg.

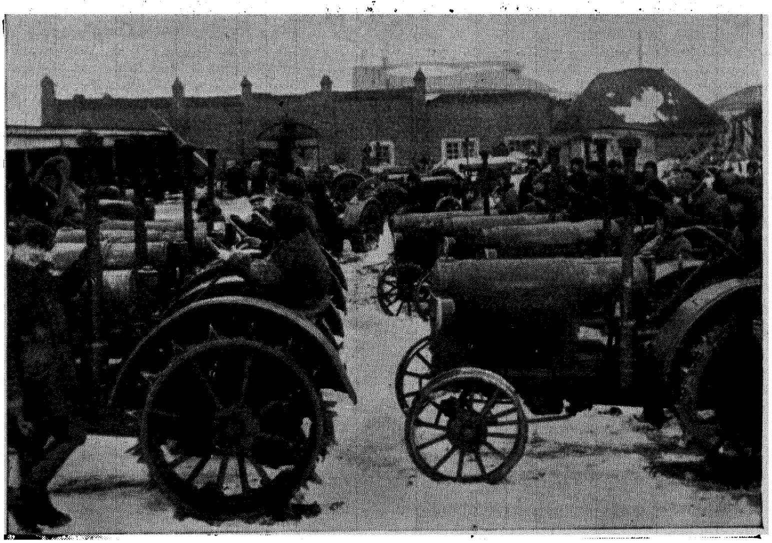


FIG. 15*a*. TRACTORS IN THE CENTRAL BLACK EARTH REGION

Notice the clothing of the men. Does the picture suggest a heavy or a light snowfall in this region? In which season was the photograph probably taken?

Photo Planet News, Ltd.

The *Ukraine* is almost as large as France; it contains the homes of nearly 30,000,000 people, most of whom live in the country. These country homes are usually very small one-roomed houses made of wood and dried mud and thatched with straw. They contain little furniture, a rough table, one or two forms, and perhaps a bed. The only ornament is a picture of a saint which hangs on the wall, with perhaps a small lamp kept burning in front of it. In the middle of the room is a brick fireplace, or stove, which is often so large that in winter-time members of the family sleep on it. Others sleep on the forms or floor.

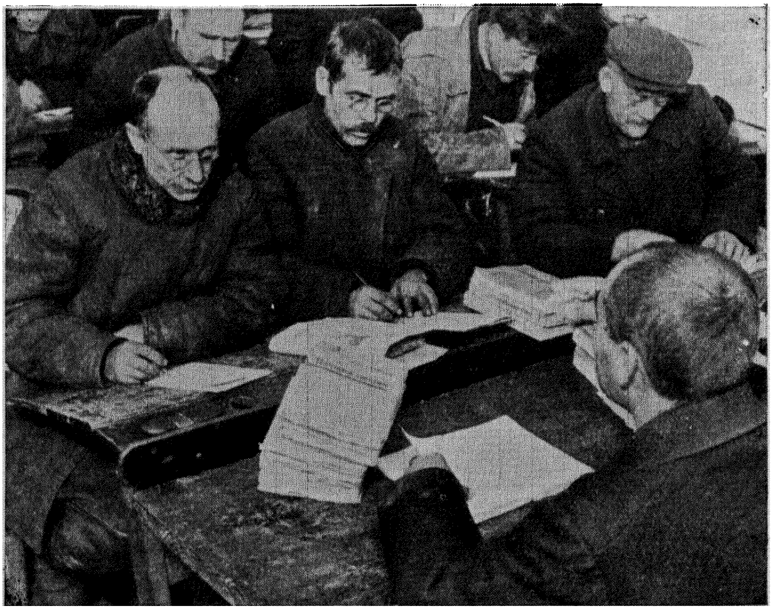


FIG. 15*b*. RUSSIAN PEASANTS AT SCHOOL

Notice that the students, although indoors, are wearing heavy clothing. What does this suggest? Is it likely, in these circumstances, that this factory school was situated in the neighbourhood of a coalfield or in a forest region? How do you account for the students being adults?

Photo Planet News, Ltd.

As a rule there is an adjoining shed for the animals, where, if the family is large, some of them sleep also.

The crop which is grown on all the farms for food is rye, from which a coarse black bread is made. This, together with a few beans and cabbage soup, forms the chief food of the people. On the larger farms wheat is grown for export. Sugar-beet is also grown on a wide strip of land from Kiev to Kharkov, but most of it is to be found at the Kiev end. Barley and oats are also grown in small quantities. Horses and cattle (oxen) tend to decrease in numbers, as more and more ground is required for growing grain food; sheep are found mostly on the drier lands.

The farmhouses are usually collected together in long, straggling villages. The roadway between the farmhouses is usually very wide, so that the rough, heavy wagons can avoid the ruts made by others, for the roadway is only of ordinary earth, and not made with stone. The farmer, in order to dispose of his grain, may have to take it two or three days' journey over such roads. In winter he can take it across the snow in any direction. For six months in the year good roads are really unnecessary. That is probably one reason why the Russian in the past has taken little trouble to build them. In the winter-time, however, water transport is impossible, because the rivers are frozen up. Although the Ukraine is in the same latitude as France, boats there are held up by ice for at least a hundred days in the year.

The Ukraine coast on the Black Sea is almost tideless, and ships can reach the ports at any time of the day. Another advantage is that the coast is protected by lagoons, called *limans*, similar to the *hafs* on the Baltic coast. These are formed by the currents washing along the mud and sand brought down by the rivers, there being not tide enough to clear it away. There is, however, one serious difficulty. At times the wind blows strongly and continuously from one direction, and this increases or decreases the depth of water appreciably—in the Sea of Azov by as much as 7 feet at times. An occupation that is followed on the coast is that of fishing for mackerel, sturgeon, and anchovy. Practically all this fish is cured in salt or dried in the sunshine.

All the rivers of the Ukraine suffer from defects—rapids, shoals, freezing, and variation in volume. The Dnieper, which is the most important river, is frozen for four months in the year, and during the dry autumn the water is so shallow that boats cannot carry full loads. Nevertheless, it is used by small river-steamers, which convey passengers, grain, coal, and wood. Much of the wood goes by river only as far as Dnieprohes, and then eastward by land. The river forms the link between the forested and the treeless parts of the country.

Originally the Ukraine was one of the richest agricultural parts of Europe, the northern two-thirds having an extremely fertile black soil. The western half was originally covered with valuable forests of oak, beech, elm, and maple. But the soil is becoming exhausted, and much of the forest has been cut down and not replanted, so that the country is poorer than it used to be. The people of the Ukraine are called Little Russians, to distinguish them from the Great Russians, who developed a state centred in Moscow.

Muscovy. The Great Russians, under their Tsar and nobility, conquered Russia from the Caspian Sea to the Arctic Ocean. As in the Ukraine, three-quarters of the people in Muscovy are farmers, and their difficulties are much the same. In the north, however, there are still thousands of square miles of forests, mostly of fir-trees. Much of the timber obtained from them is exported from Archangel during the summer. The growing of crops in this part when the land has been cleared of trees is difficult, because of the shortness of the summer. Only hardier grains, such as rye and oats, can be grown. The villages are like those of the Ukraine, except that all the houses are built of logs and roofed with slabs of wood. They have more furniture inside, since wood is plentiful, though much of the furniture is rough.

As far as a hundred miles north of the Volga the forest has been largely cleared. North of this the felling and preparing of timber is still the chief occupation of those few people who live there. The cut timber is floated down the tributaries of the Volga, and then made into large rafts and towed along river and canal to the Baltic coast, whence it is shipped abroad, or else it is sent down the Volga as far as Stalingrad, and then transported overland to the treeless districts of the south or to the Black Sea ports.

All the rain and snow that falls over an area as large as the British Isles and is not lost by evaporation or absorbed by plants finds its way into the mighty river Volga. Some idea of the length of this river can be gathered from the statement that a journey from Rybinsk to Astrakhan would be about equal in distance to a journey by sea round England from Berwick to Carlisle. "The largest vessels plying on the Volga, including the luxurious passenger steamers, make their way up to Rybinsk. The town is practically a large warehouse and transfer station, cargoes being transferred to smaller vessels for further transit or loaded on rail. Fifteen

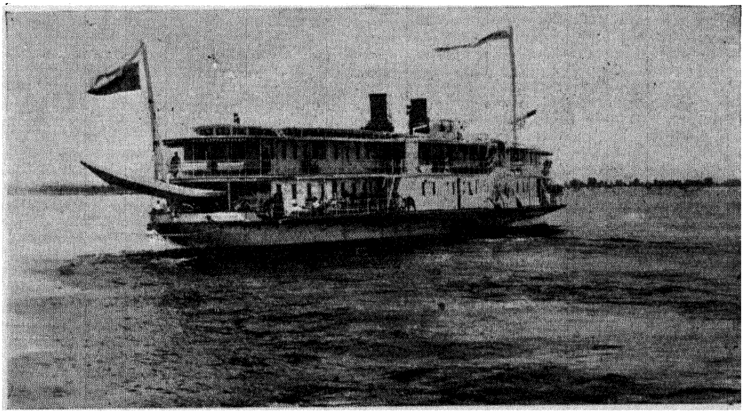


FIG. 16. STEAMER ON THE VOLGA

Some idea of the width of the river can be obtained by noticing the apparent size of the trees on the farther bank. You notice also that the cabins are built above deck, partly because the boats are built to travel in shallow water, and partly because there are no great waves as on the open sea.

Photo E.N.A.

thousand vessels on an average enter and clear the port annually."[1]

During May and June a depth of 30 feet can be reckoned on from Rybinsk to Astrakhan. After July the water falls so rapidly that full freights cannot be carried. Navigation is then hampered by quantities of soil which have been washed down from river-banks because of the cutting down of riverside forests.

Several of the large towns of Russia are situated on the banks of the Volga or its tributaries. A glance at the map will show many names along the Volga. The towns are situated where the river changes its course or is joined by a tributary coming from another direction. Practically all these towns are at the junctions of routes going north and south with those going east and west. They are Astrakhan, Saratov, Samara, Kazan, Gorki, and Yaroslav, all on the main stream, and Moscow, on a tributary. Even Leningrad is connected by canal with the Volga.

The Volga conveys to the factory-workers who live in the towns round Moscow fuel for their fires; salt, seeds, and flour for their food; tea for their drink; wool for the factories; cotton, hemp, flax for the mills, both in the fibre and as thread; and also petroleum oil for their lamps.

Towns such as Moscow and Leningrad present a marked contrast in appearance to the villages. The people live in tall blocks of buildings, sometimes a hundred families in each, a family having a suite of two, three, or four rooms. The rooms are lofty, and heated by a great wood-burning stove built of brick. A great fire is lit, and when the wood has burned to redness the draught is shut off, and the apartment is kept warm for at least twenty-four hours. The walls of these buildings are 2 to 3 feet thick. The windows, which are double, are not opened in winter. The streets are usually paved with rough cobblestones.

[1] Peace Handbooks, No. 53, p. 41.

Moscow is a town which contains many factories for making cloths of wool, silk, linen, and cotton. Tula specializes in making goods of iron, and many of the smaller towns in the district have developed as the result of the coal which is obtainable underground. This coal-field is important in that it supplies the needs of the local factories.

Leningrad, built by Peter the Great on marshland, the draining of which cost thousands of lives, was once the seat of government. It is not centrally situated, and its harbour freezes in winter, so that its factories have disadvantages to overcome in obtaining raw material and in disposing of their products. It has no local coal-supply, so that although it is connected with the interior by rail, river, lake, and canal it has not retained its importance as an industrial centre.

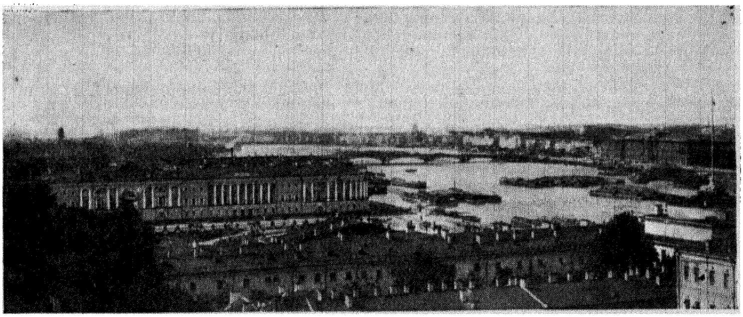


FIG. 17. LENINGRAD

The river Neva here shown is one of the lesser rivers of Russia. It is connected by canal with Lake Ladoga and the river Volga. Notice the barges on the river.

Photo E.N.A.

During the year many peasants get very little meat or butter to eat. Fat of some kind is necessary for human beings living in a cold country. The flax and hemp plants supply some of the fats required. The seeds of both plants when crushed give an oil. Another plant is grown in the southern half of the country specially for its oil-bearing seeds. This is the sunflower. The seeds are sometimes eaten without preparation, or the oil may be used with bread much as we should use butter or dripping. Occasionally a little fish is eaten, but this is always dried or salted, unless the peasant lives near a river where the fish is caught.

Large quantities of fish are caught in the Volga and in the Caspian Sea. The sturgeon, a large fish somewhat similar to the salmon, is caught by the thousand every year. The flesh is cured, and the roes are specially prepared to make a very expensive luxury called caviare, which is sent to all parts of the world as a table delicacy. Besides flat fish, the Caspian supplies large quantities of a type of herring. This last is the source of fish oil as well as of food. This area is one of the most valuable fishing-grounds in the world. The curing of fish is facilitated by the heat of the summer sun and also by the salt-supply from the lagoons bordering the Caspian Sea.

The Don Country. Between the Ukraine and the mouth of the Volga there is a largely treeless region that has been made famous by the people who inhabited it. They were brave, fierce tribes who lived in tents and kept horses and cattle. They were very warlike, and were never really conquered either by the Tatars or the Great Russians. In the end they were excused all taxation on the understanding that the men would act as soldiers in the Russian army in time of war. The Cossack tribes became regiments in the army somewhat in the same way as the Scottish clans formed regiments for the British army. They were ensured the possession of their lands. As time went on the horses and cattle had to give way to ploughed fields to supply food. This area, however, still contains many horses, oxen, and sheep, and there are meat-works and flour-mills at Saratov.

This Cossack country is the southern limit of the black earth region. It is very fertile, except in the east, where it merges into the dry salt steppes bordering on the Volga.

As elsewhere, rye is the chief crop, and wheat is grown for export. The harvest is very uncertain, and varies at least 30 per cent. according to the amount of rain during the year. Meat is more frequently eaten in this part of Russia. The largest State farms are in this area.

Caucasia. Between the Manich depression and the Caucasus Mountains Cossack communities are to be found also, but this country, Northern Caucasia, is a medley of humanity. More than a dozen peoples, each with its own language and religion, are to be found living in little groups scattered over the plains and in the valleys among the mountains. A plateau, like a spur from the Caucasus, divides the country into eastern and western halves. The west is an extremely fertile region, the east a dry pastoral region. An area as large as the British Isles contains but five to six million people. Its winter temperatures are as low as those of Finland and its summer temperatures as high as those of Algeria. A number of health resorts

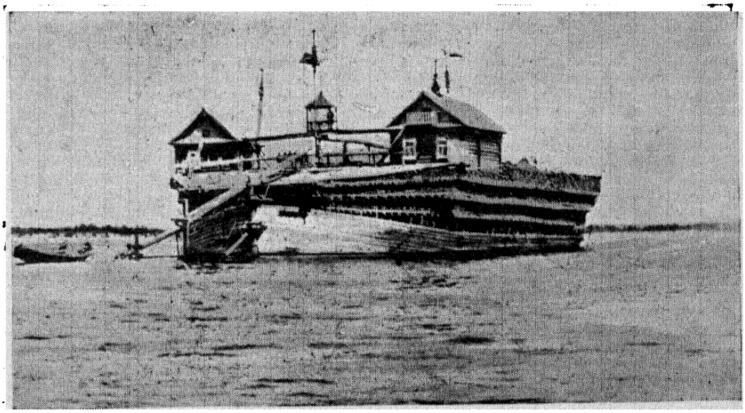


FIG. 18. BARGE ON THE VOLGA

The picture shows a boat laden with sturgeon floating downstream. The journey takes so long that it pays to build houses for the fishermen to live in. The barge will probably never return upstream. Why?

Photo E.N.A.

for workers on holiday have been established in the mountains.

Wheat is the chief grain crop; sugar-beet and soya beans are grown for food, and cotton is cultivated to supply the mills in Tiflis. The varied landscapes and clear sunshine have made Tiflis the centre of the Russian film industry. More than half the Russian crop of sunflower seed comes from Kuban, the western of the three districts into which Caucasia is divided.

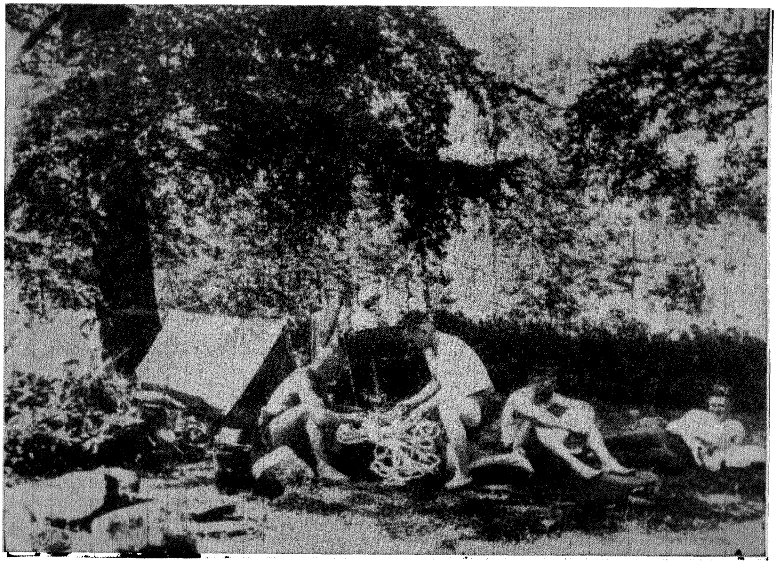


FIG. 18*a*. A CAMPING SCENE IN THE CAUCASUS

Compare the clothing with that shown in Fig. 15*b*. What do the two pictures tell you of the climate of Russia? In what season of the year was this photograph probably taken?

Photo Planet News, Ltd.

Of the several minerals mined in the area the chief is manganese; only India and Brazil compare with this country in the quantity produced. Manganese is an important metal, because, when mixed with steel, it produces an extremely hard alloy, used for such things as tramway points and armour plate. Mineral oils are pumped from borings, most of which are on the southern side of the mountains. From the oils are obtained petrol, benzine, engine oil, asphalt, and paraffin wax.

In the main, the different peoples in Caucasia have been employed in different occupations. The Persians and Turks are found on the oil-fields; the Great Russians, Little Russians, and Cossacks are farmers; the Armenians are shopkeepers and merchants; the Tatars and Mongols look after flocks and herds; the Georgians are engaged in farming and pastoral work; the Italians are masons, road-makers, and navvies.

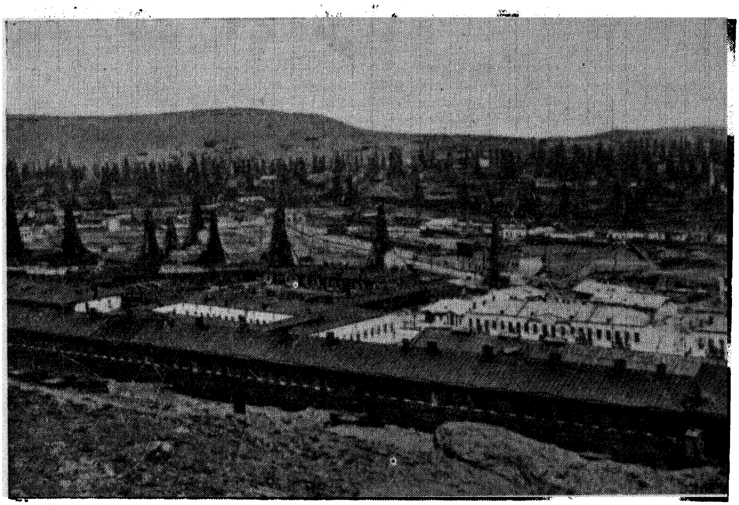


FIG. 19. THE BAKU OIL-FIELD

Each of the wooden funnels covers a bore-hole, up which the crude oil flows or is pumped. The buildings are the offices and the living quarters of the workers. Notice the absence of trees and shrubs.

Photo E.N.A.

Practically all the Mediterranean fruits are grown. Most of the products from this region are consumed in Russia. Wheat, mineral oil, and the bulk of the manganese are, however, exported, the grain from Novorosisk, the manganese from Poti, and the oil from Batum. Astrakhan, the second port of Russia, forms a link between industrial Russia and the fish supplies of the Caspian, the cotton supplies of Turkestan, and the oil lands of Caucasia.

PROBLEMS

1. The Volga is frozen from 200 to 250 days each year. What effect has this on the work of the farmers, fishermen, and transport workers?

2. The figures below show the population and the value of foreign trade for the years 1911 and 1933. Calculate the value of foreign trade per head of the population, for both dates separately, and say whether you think that the Russians are getting poorer or not. Give reasons to account for the differences you notice. Consider the reasons why trade is usually carried on.

—	Population	Foreign Trade
1911	145,000,000	£295,000,000
1933	166,000,000	£145,000,000

3. The following figures represent the climatic conditions in four towns in different parts of Russia. How would you account for their general similarity and the smaller differences?

Town	January Temperature, in ° F.	July Temperature, in ° F.	Annual Rainfall, in Inches
Stavropol (Caucasia) .	24	79	20
Astrakhan (on Caspian Sea) . . .	10	78	6
Kostroma (Muscovy) .	9	66	19
Poltava (Ukraine) .	19	70	20

4. Draw a diagram to show the length and direction of the railways from Moscow to the following ports: Archangel, Leningrad, Tallinn (Reval), Riga, Libau, Odessa, Nikolaiev, Taganrog, Rostov, Astrakhan. What disadvantage has each of these places as a port for trade with Western Europe?

5. What effect upon the life of the people will the changes that are taking place, indicated by the figures below, have if they are continued for the next ten years? Suggest why efforts should have been made to increase especially the coal output and the wheat acreage.

—	Area in Millions of Acres	
	1924	1933
Wheat	51	83
Rye	67	63
Oats	28	41
Other grains	43	55
Flax, hemp, and sunflower	12	16
Coal (million tons)	14	92

6. Of all the wealth produced in Russia in 1913 industrial products formed 42 per cent.; but in 1933 industrial products accounted for 70 per cent. of the total value. What changes in the life of the people and in trade of the country are likely to arise from this difference? How has the change come about?

7. Examine the figures given below, and make suggestions to account for the changes that have or have not taken place in the population of the Russian towns. The figures are approximate only. Consider the position and development of the coalfields and the effect on trade.

Town	1890	1920	1933
Moscow	800,000	1,500,000	3,600,000
Leningrad	1,000,000	2,000,000	2,700,000
Kiev	180,000	500,000	540,000
Kharkov	190,000	230,000	650,000
Odessa	300,000	500,000	500,000
Gorki	90,000	100,000	450,000
Baku	100,000	250,000	700,000
Rostov	20,000 (?)	40,000 (?)	500,000

8. About 90 per cent. of the world's supply of platinum comes from the Ural Mountains district of Russia. Only about 20 per cent. of it is used in the country, and yet it does not appear as one of the most valuable exports. Explain why.

CHAPTER X

THE LAND OF THE LITHUANIANS, LETTS, AND ESTONIANS

THERE was a time when this country was covered by a sheet of ice, and the slowly moving ice of the glaciers ground the rocks over which they passed into very fine clay and less fine sand. A thick layer of clay and sand has been left on the surface. This layer has a fairly even, level surface. The moisture does not readily run off the plain, and it cannot readily soak through the clay. Thus there are many marshes and lakes, some of a considerable size. Most of the ground which was not lake or marsh-covered was for centuries covered with forests of fir-trees. Much of this forest-land still remains.

The original peoples apparently found their way into the country along the rivers Niemen and Dvina. They each developed a language that is different from those of their German, Polish, and Russian neighbours. The Estonians have a language like that of the Finns. Until about the time of the Crusades all these people were heathens, but then some shiploads of German knights came to conquer the country and make the people Christians. They were so successful in this that until 1918 the descendants of these knights and later German colonists practically ruled the country. They made themselves intensely disliked, because they treated the peasants as little better than slaves, but at the same time they were intelligent enough to encourage modern methods of farming. They developed and maintained a trade with Germany and other countries by sea, which is the easiest way into the country. To-day these countries send dairy produce to other parts of Europe, and also great quantities of pit props, especially to Britain. This is important to us, because the coal-supply, on which all our manufactures depend, in turn depends on the supply of cheap pit props.

It was the sea that brought these countries into touch with Germany in the first place, and it makes them important to-day. It enables the people to send away the products of their forests and farms by the cheapest route. It is the sea that has led to the growth of the only large towns—Tallinn (Reval), Riga, and Memel—because goods from the interior also came to this coast for export in the days before Estonia and Latvia were separated from Russia, or Memel from East Prussia.

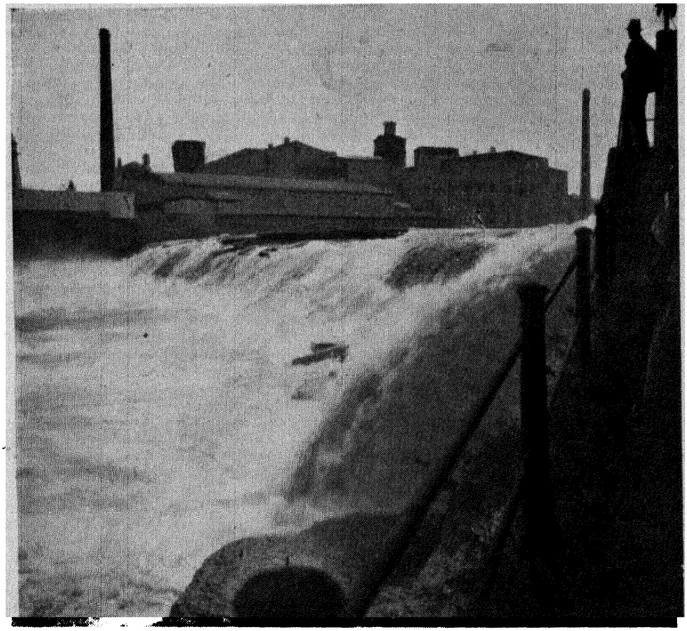


FIG. 20. THE NARVA FALLS, NEAR THE RUSSIAN FRONTIER

Notice the cotton mills, whose machinery is driven by the electricity generated by the falls, and notice the timber being floated downstream.

By courtesy of the Estonian Legation

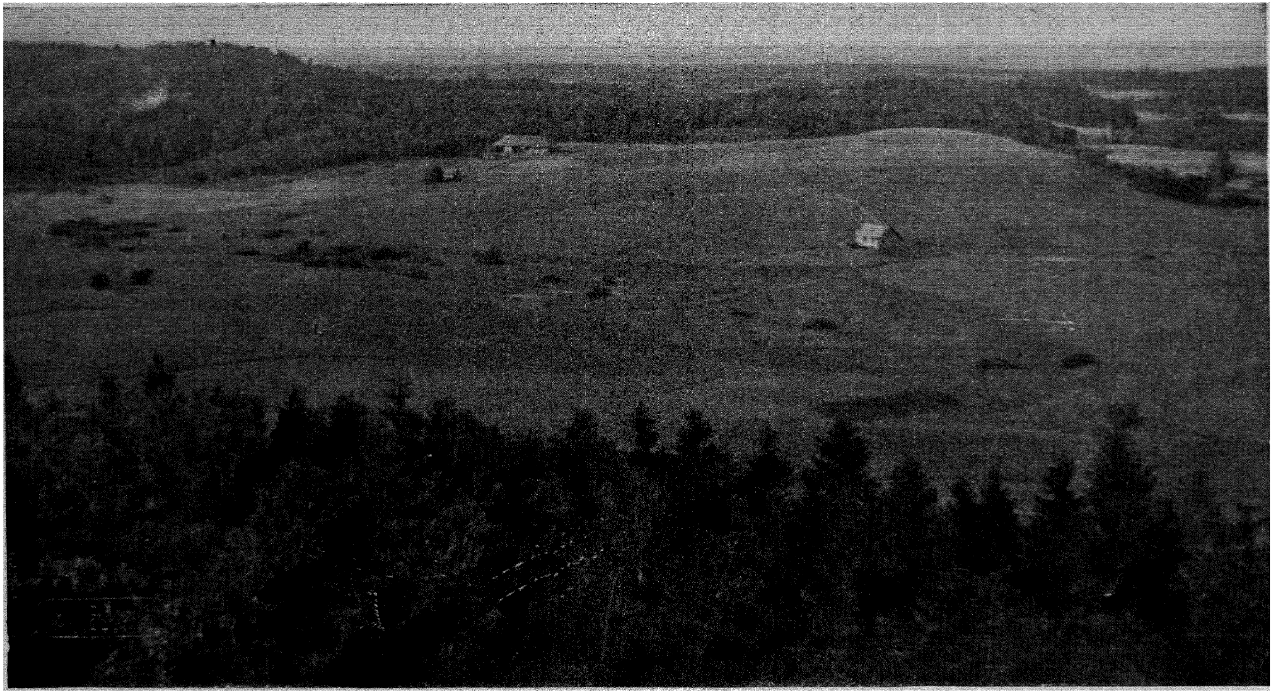


FIG. 21. A COUNTRYSIDE TYPICAL OF ESTONIA, LATVIA, AND LITHUANIA

The farms are in clearings cut in the forests.

By courtesy of the Estonian Legation

If the map is studied carefully it will show that the shortest route from the Black Sea to the Baltic Sea is along the rivers Dnieper and Niemen. The route to the Vistula is made difficult by the extensive Pripet marshes. For several hundred years the ruler of Lithuania had a kingdom that stretched from the Black Sea to the Baltic. It included what is now the Russian republic of the Ukraine.

It was along the rivers Dnieper and Niemen that the earliest traders went in order to fetch the amber which is found in the shallow seas close to the coast, and which is to-day mined in the top layers of clay. This amber was much valued for the making of beads by the people who lived in Constantinople hundreds of years ago, and is to-day used for making the mouthpieces of pipes and cigarette-holders. It is believed that amber was originally the resin which came out of the pine-trees. This resin was covered up by newly formed earth, and then pressed by the great weight of the ice-sheet that covered the country. If this belief be true, it shows that this part of Europe was forest-covered before the great ice-sheet was formed.

All these countries are small in size, and contain few inhabitants. Each of them is about the size of Wales, but the number of people in all three combined is only about as many as in the towns of Moscow and Warsaw. Most of the townsfolk live in the seaport towns, whence railways run straight to Moscow and the interior of Russia.

More than 80 per cent. of the people are engaged in farming or forestry. The most important crops grown are those that will stand cold winters and short summers. Rye, oats, and potatoes are the chief. Flax is also grown, both for the linen fibre and the linseed. The animals kept on the farms are numerous enough to supply the people's own needs and to provide dairy produce, butter, eggs, and poultry for export. The forest products—timber, paper, and cellulose—are exports of equal importance.

PROBLEMS

1. Latvia has 500 miles of roads, and Lithuania has 700. Measure on your map the distance across each country from east to west. How many times would the total length of roads in each country cross it? How would you account for this poverty or wealth of roads?

2. Two-thirds of the exports from the three Baltic States go to Great Britain and Germany; one-third of the imports of those States come from the same two countries. Why do the two countries have a smaller share of the imports than of the exports? What commodities are probably imported or exported?

3. Vessels can reach Tallinn (Reval) for nine months in each year. The Niemen is navigable for 270 days in the year. The temperatures for January give an average of 24° F. What is the relation between these three statements about the countries to which this chapter refers?

4. How would you account for the fact that most of the Letts are Lutherans (Protestant Christians), while the others are Roman Catholic or Greek Christians? Has the position of the country anything to do with it?

5. One-eighth of Estonia is untillable. Of these 1,500,000 acres 500,000 are peat bog. Suggest what the rest of the untillable area might be, and explain why this sort of countryside is found in this part of Europe.

IV. THE SCANDINAVIAN STATES

CHAPTER XI

THE LAND OF THE FINNS

A VISITOR arriving in Finland any time from the beginning of December to the end of April would see the countryside snow-covered, and would be able to travel from any one point to any other by sleigh without obstruction except by forests. For these five months roads are almost unnecessary, for the land is buried under 15 to 30 inches of snow. Snow falls from October till May. Most of the rain falls in the late summer. By the end of May all the snow and most of the ice have thawed.

A journey northward across this land shows three types of countryside. The first 50 miles inland is level country, with many farms and a few woods. There is a very gradual rise up to a low plateau. This plateau contains thousands of lakes of all sizes and shapes. So much of the area is water that travel is most commonly undertaken by small steamer. Many of the lakes are connected together by rivers, and others by canals. The people in this part of the country live near the lakes. Everywhere else forests cover the land. As the journey proceeds northward it is found that the height of the land increases, but only the peaks reach more than 1000 feet. In the north there is a gradual slope down to the Arctic Ocean. In this region the forests are thin, and the trees are very stunted or confined to sheltered valleys. The higher plateau and the Arctic slope are not permanently inhabited, but provide grazing-grounds for wandering Lapps and their herds of reindeer.

Although nearly nine-tenths of the Finnish people earn a living by farming the land, the country seems to have almost every disadvantage from the farmer's point of view. The great ice-sheet that at one time covered the country excavated hollows which are now lakes, scraped off most of the soil from the plateau region, and deposited a rather infertile covering of clay and sand on the coastal region. The farmer starts with a poor soil, which he cannot work for five months of the year, because it is frozen or snow-covered. Then the thaw saturates the soil with water, and before the water can be properly drained from the clayey soil the late summer rains bring more moisture. The sun never rises very high in the sky, so that its heating power, and its power for drying the land, is not very great. In midsummer the sun is only as high as in Southern England at the beginning of May. Yet the Finnish summer is actually hotter than the British, because the

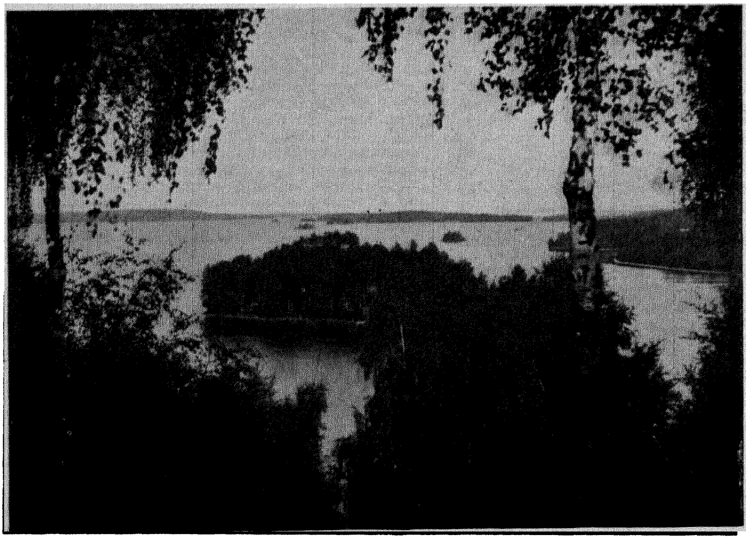


FIG. 22. A LAKE IN FINLAND

There are several hundreds in the country.

By courtesy of the Finnish Legation

summer days are so long. In midsummer there are 19 or more hours between sunrise and sunset. But this advantage is compensated for by a 5-hour day in midwinter. The summer, too, is very short, and therefore a great deal of the grain crop has to be ripened in sheds after it has been cut. The hay crop has to be hung on walls and fences to dry.

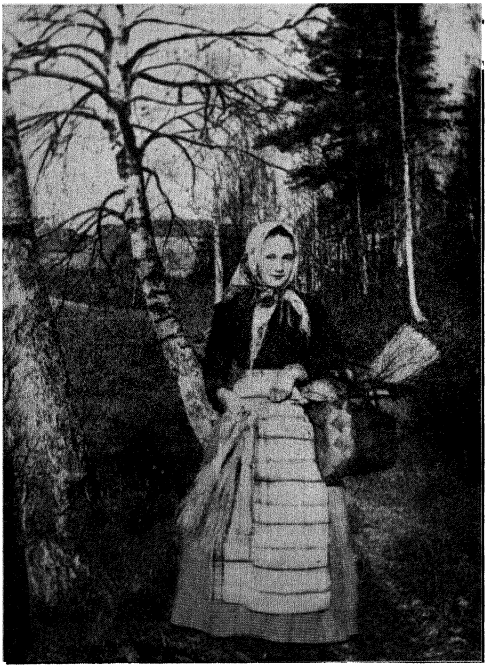


FIG. 23. A FINNISH PEASANT GIRL

Notice the birches and firs, the most common trees in the colder Northern countries.

By courtesy of the Finnish Legation

Grain grown under these conditions is likely to be of poor quality, so that as grain can now be imported from other countries most of the Finnish crop goes to feed the animals. The farmer finds that it pays better to export butter and import grain and flour than to attempt to live on what can be produced in his own country.

Finland is a poor country in other respects. There is no coal, and hardly any minerals are to be found in quantities likely to lead to considerable industries. However, there is plenty of wood in the forests and abundant water-power. Millions of cubic feet of timber are exported every year. Most rivers are practically useless for boats, but they are very useful for floating timber. In their courses from the plateau to the coastal plain they are interrupted by falls and rapids. Although the country has not yet been completely mapped, some fourteen hundred rapids have been recorded. The horse-power which these rapids could develop runs into many millions. At present some of the falls and rapids are used for driving saw-mills and for producing electricity, which is used not

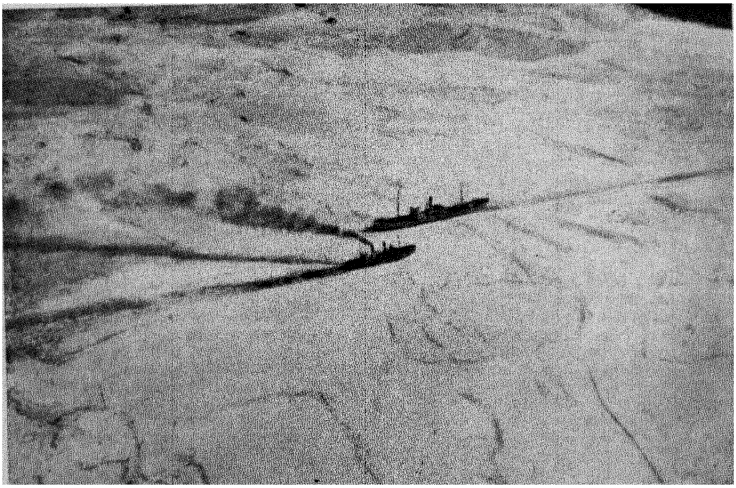


FIG. 24. SHIPS PLOUGHING THEIR WAY THROUGH ICE IN THE GULF OF FINLAND

This photo was taken from an aeroplane.

By courtesy of the Otava Publishing Company, Helsingfors only for lighting, but also for paper factories, steel furnaces, and cloth-making factories. Unfortunately the falls provide little or no power for several months in the year, as the rivers and lakes are frozen.

With more than 1000 miles of sea-coast, it is not surprising to find that many Finns take to a sailor's life. A number earn a living by fishing, though the two arms of the Baltic Sea which border Finland on the west and south freeze readily in the cold winter. The water in the Gulfs of Bothnia and Finland is rather fresh, firstly because they receive many large rivers, secondly, because they experience a small amount of evaporation, and, thirdly, because they are practically cut off from the outside ocean. The Gulf of Finland freezes over and the Gulf of Bothnia is blocked with ice every year. The smaller ports cannot be reached by vessels for four months The chief ports, Åbo and Helsinki (Helsingfors), are kept open by powerful ice-breakers, which steam backward and forward, breaking up the newly formed ice, thus keeping a channel clear for the other vessels.

A poor country like this can never have a large population. Even to-day it has only 3,700,000 people. Its position between the more populous countries of Sweden and Russia led in the past to its being governed first by Sweden and then by Russia. A large proportion of the professional and trading classes are of Swedish descent. From Sweden, too, came the Protestant form of the Christian religion, and also a respect for education, both physical and intellectual.

In order to sell their produce, especially butter, the farmers of Finland have formed many co-operative societies. These societies enable their members to obtain a steady price for their milk, and they keep up the quality of the butter produced. Although the butter export is considerable, its value is small compared with the value of the timber exported. Paper and wood-pulp for paper-making are exported in large quantities also.

The interior of the country is so poor and so cut up by lakes that there are no towns of any size. The towns are nearly all seaports. Helsinki, the seat of the Government, is the most important port.

Except in Helsinki, most of the houses are built of wood. This has been the cause of many disastrous fires. The farm-buildings are also of wood. They are usually fairly extensive, since much of the grain crop has to finish ripening under cover, and the cattle that supply the milk for butter-making have to be kept indoors for the greater part of the year, owing to the cold and to the pastures being snow-covered.

PROBLEMS

1. The average height of the sun above the horizon during the day in Southern Finland is

December	4°	July	25°
February	9°	September	16°
May	24°		

The sun is above the horizon each day for about the following number of hours:

December	6 hours	July	18 hours
February	9 ,,	September	12 ,,
May	17 ,,		

What effect will the differences in the height of the sun and in the length of the day have on the climate of the country in winter and in summer?

2. In 1933 there were, out of a total of 140,000 industrial workers in Finland, 24,000 workmen in the iron and machine works, 22,000 in the textile factories, and 59,000 in works dealing with wood and paper. What explanation can you give to account for the small number of workers in industries? For what reason does the wood and paper industry employ more workers? What advantages has this country for the manufacture of textiles?

3. The origin of the imports in 1934 were as follows:

From Great Britain	21 per cent.
From Germany	20 ,, ,,
From Sweden	10 ,, ,,

Suggest the kind of goods that is likely to be imported from each country, and give reasons for your selection.

4. The exports were:

To Great Britain	47 per cent.
To Germany	10 ,, ,,
To the United States	7 ,, ,,

Suggest why these countries take most of the goods sent out of Finland. What are the goods?

5. Pechenga, on the Arctic Ocean, is the only Finnish port that is really free from ice throughout the year. How would you account for the fact that this northerly port is ice-free? What advantages and disadvantages has it that are likely to affect its importance in the future? Refer to its position in the country, and its position in regard to other countries, and its accessibility and means of communication on land.

CHAPTER XII

THE LAND OF THE SWEDES

THE home of the Swedes is really the southern portion of the eastern slope of the ancient mass of rock which forms the Scandinavian peninsula. In numbers they are a small people occupying a large homeland, but they made their mark in the world before the tenth century, when they crossed the narrow seas and entered the rivers on the mainland of Europe and established little kingdoms. The people from the island of Gotland became world-famous traders, and their tokens were accepted as reliable coin in the commerce of the time. The name of Goth was given to those who hailed from Gotland and the adjoining mainland also. The Goths were well situated for acting as intermediaries between Western Europe and the East, but the importance of their position lessened from the sixteenth century onward, when trade with America and the West developed and when alternative routes to the East were found.

The ice-sheet which covered Northern Europe has left more soil in Sweden than in Finland. As in Finland and Northern Germany, the drainage of the countryside has been much interrupted by the deposition of moraine material. The land is studded with lakes of every shape and size. Some are of considerable depth. The easterly slope of the country falls in three fairly-well defined steps, over the edges of which the rivers drop in waterfalls or rapids. These falls are being brought into use to provide electric power. The highest and most important falls are, however, in the west, on the Göta river, a few miles below the southern end of Lake Väner. These are the Trollhättan Falls. Here the river falls over 100 feet in a mile.

THE LAND OF THE SWEDES

Sweden stretches north and south, from the latitude of Greenland to that of Glasgow. Only a few isolated groups of miners, foresters, and Lapps live north of the latitude of the Shetland Islands. The northern half of the country is covered with forests of coniferous trees, with a sprinkling of birch.

In spite of the northerly latitude the people are able to export a surplus of agricultural products. The Swedish farmer is helped by the westerly winds, which prevail during most of the year and bring warmth from the ocean. He is helped also by the mountain wall of highlands, which causes most of the rain to fall on the Norwegian side of the Scandinavian plateau. The lower rainfall means that the soil needs less draining on the whole than that of Finland, and the longer summer days and the relatively clearer skies allow the sun to dry up a greater amount of the moisture. Even so, the farmer cannot afford to allow his hay to lie on the ground, but, like the Finnish farmer, has to hang it up on light wooden fences to dry.

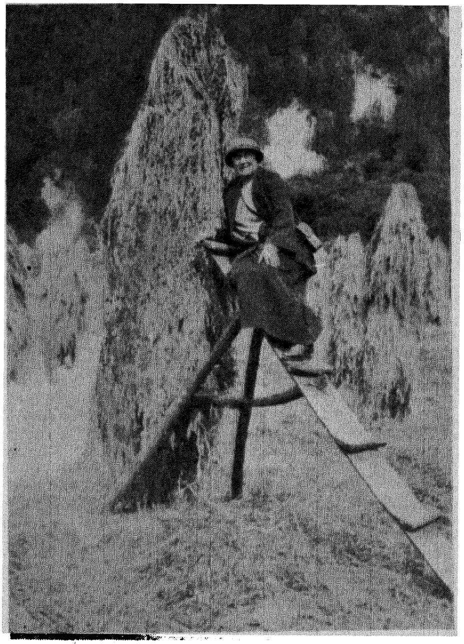


FIG. 25. DRYING GRAIN IN SCANDINAVIA

Owing to the moist climate, even the grass in Scandinavia has to be raised from the ground to dry it for hay.

By courtesy of Mrs C. A. Woodcock

Not only the farmer's fences, but his farm-buildings, his house, his church, and, in fact, all buildings outside the larger towns, are made of wood. Outside some country churches are ten or twenty little wooden sheds, in which the farmers may shelter their horses while they are at service in the winter-time. Great stacks of wood are built near the farm to help the farmer to meet the long, cold winter, when the ground is snow-covered and the rivers and lakes are frozen.

Two-thirds of the farms are between 5 and 50 acres in area. These farms do not in the harvest-time present a carpet of golden grain, although the summer temperatures are as high as those of Southern England. As a rough average we might divide up a 30-acre farm into 12 acres of meadow, 12 acres of fodder—such as grass, clover, or vetch, roots, and beans—and 6 acres of grain crops, half of which are oats. Thus even if the animals are hidden from view one may guess that they are the farmer's chief concern. Such a 30-acre farm would have about seven cows and calves and two horses. Cattle are frequently used for ploughing and the horses for carting.

It is obvious that three or four milch cows supply more milk than the farmer's family requires. It was a Swede who invented the milk separator for rapidly and effectively skimming the milk for the purpose of making butter. Agricultural products come next to those of the forests and mines in the order of important exports. Grain and flour are imported; this fact will readily be understood when it is remembered that quite a small area is devoted to grain crops, and that half of the population is engaged in industry and commerce—in other words, produce no food, but nevertheless require feeding.

Owing to the abundant water-power only a fraction of the wood from the forests is sent out of the country in the raw state. The streams are not only used directly for producing the power required in the saw-mills, but also for electricity for use in the paper and pulping mills.

The paper and pulp products exported are 50 per cent. more valuable than the raw timber.

For centuries the country has been the chief European source of iron ore and its steel has been noted for its high quality. Iron-mining and smelting is carried on in many centres in the neighbourhood of Stockholm, especially round Falun. The most productive mines are found north of the Arctic Circle, at Kiruna, where there are great hills of rich ore, ore with over 60 per cent. of iron. Electric trains run every forty-five minutes, day and night, with thirty trucks of ore, to the Norwegian port of Narvik, which is ice-free throughout the year. From here the ore is sent by steamer to the chief industrial centres of Europe. As electric power is being developed, a good deal of the ore is smelted in electric furnaces into pigs of iron and ingots of steel before it leaves the country. A very serious disadvantage from an industrial point of view arises from the freezing of the rivers for three months in the year, when the electric supply is curtailed. In the old days charcoal was used in the smelting, and even to-day the making of charcoal is carried on in the forest districts. The towns of Dannemorra and Eskilstuna are renowned for the high-quality steel which they produce. In order to maintain the industries throughout the year a considerable amount of coal is imported from Great Britain.

The making of safety matches has long been an important industry, though a great deal of the necessary aspen wood is now imported from Finland and Russia. Once made by hand, they are now made entirely by machinery. Machines split the wood, dip the ends, make and fill the boxes. Jönköping, on Lake Vätter, is the most important match-making centre.

The capital and largest town is Stockholm. It is situated on a number of small islands near the entrance from the sea to Lake Mälar.

Thousands of the people arriving in Stockholm daily to carry out their work come on little steamers instead of by tram, train, or bus. The wealthier folks do not come by motor-car, but swish along through the water in their motor-boats. Those who live near to their work tramp to and fro over the many bridges that link the islands nearest the centre of the town. The farmers and tradesmen send their goods by the little steamers, or row their own boats to market. Moderately large seagoing steamers can reach Stockholm from the Baltic Sea. But for three months in the year ice closes the sea-routes.

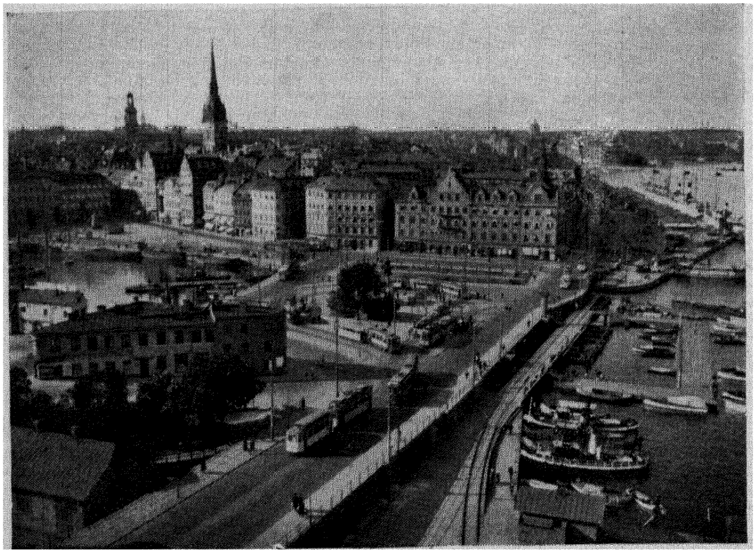


FIG. 26. STOCKHOLM

Notice the small passenger-boats to the left and right of the picture, also the sea-going steamers in the right background.

Photo E.N.A.

The journey from Stockholm to Western Europe by sea is made rather lengthy by the necessity for going round the southern end of Sweden and through the Sound. At one time Denmark used to demand a toll of all ships passing through the Sound. This led to the suggestion that a canal should be built across Sweden. It was not built for about three hundred years, and, though in use to-day, it saves little time because of the large number of locks that are necessary to carry it over the high ground round Lake Vätter. The canal route from Göteborg to Stockholm goes through Lake Väner, then through Lake Vätter, then to the Baltic, and in among the islands that fringe the coast along to Stockholm. Only small vessels can use the canal.

Göteborg, from which this Göta canal system starts, has several advantages which have led to its becoming the second town of Sweden. It is ice-free in winter, is connected by rail and canal with Stockholm, and is situated in the mildest and most fertile part of the country. It can, besides, obtain electric power from the Trollhättan Falls, 40 miles away.

Malmö, on the Sound, is the third largest town. The trains can reach it from Copenhagen by means of the steam ferries, which convey whole trains at a time on their way to Stockholm and the interior. There are also train-ferries from Hälsingborg to Denmark and from Trälleborg to Sassnitz, in Germany.

PROBLEMS

1. Study the following table, and say how you would account for the difference between Sweden and Rumania in regard to the length of railways in operation.

—	AREA IN SQUARE MILES	POPULATION IN MILLIONS	MILES OF RAILWAY
Sweden . . .	173,000	6	10,000
Rumania . . .	122,000	19	7,000

Suggest why so few people require so much railway track. Consider in your answer the ease or otherwise with which tracks may be built, the supply of fuel for power, the type of goods carried, and the possibility of using waterways instead of railways.

2. In 1934 about 27 per cent. of the Swedish exports came to the United Kingdom, the countries next in order of importance being Germany (14 per cent.) and the United States (10 per cent.). Is there any special reason why there should be this marked difference in the amount received by the three countries?

3. In 1934 Sweden imported goods from the following countries in the proportions stated:

United Kingdom	20 per cent.	Germany	26 per cent.
United States	11 per cent.	Denmark	6 per cent.

What are likely to be the most important goods coming from each of these countries?

4. Comment on the following traveller's description, and explain how such conditions are made possible in Sweden.

> The prodigality of the Swede in the matter of food is nowhere more in evidence than in his national institution, the *smorgasbord*, which means bread and butter table, a side table where various dishes are served. . . . Here the creamy butter is in mountains, and the guest helps himself from the bewildering variety of fish and meats and cheeses. Wherever you go in Sweden your luncheon and supper and sometimes your breakfast too will be preceded by this very ample and very alluring and very bewildering table.—R. MEDILL.

CHAPTER XIII

THE LAND OF THE NORWEGIANS

In the north-west of Europe is an elevated block of very ancient rocks, largely crystalline. This block has been tilted so that it presents a steep slope to the west and a more gentle slope to the east. The western edge is cut by river valleys, which during the Ice Age were further deepened. Owing to earth-movements the whole block sank, and the sea filled the lower end of the valleys. Some of the higher parts of the sunken areas still stand out as islands along the coast.

Roughly the land ruled by the Norwegians consists of the western side of this ancient plateau. Three-quarters of the country is useless for agricultural purposes. As the ice-sheet has removed most of the soil from the highlands, and the valleys are largely under the sea, the extent of level ground covered with soil is very small. Glacier valleys have very steep sides—so steep that often there is not enough soil for trees, and roads can be made only by blasting out a ledge. The southern side of the valley gets no sunshine in winter, and only a few hours in summer. The drowned glacier valleys are called fjords.

The valleys in the south of the country have not been drowned to nearly the same extent, and it is here that we find great forests of fir-trees and practically all the arable land. It is here that factories and towns are less widely scattered. If a circle with a 70-mile radius were drawn, with its centre at Oslo, the capital and chief town, it would include half the homes of the Norwegian people. Two similar circles centred in Bergen and Trondhjem would include half of the remaining homes. These three circles include only one-tenth of the whole country, but three-quarters of the people of Norway.

Norway stretches north and south through practically the same latitude as Greenland, if Spitsbergen is included as part of Norway. However, it experiences weather very similar to that of Northern Scotland. The winters are cool and wet, and the summers are mild and wet. The coast of the mainland is free from ice all the year, while even Spitsbergen is free for three months in the west and south. The warmth of the country is due to the influence of the practically continuous stream of swirling air-currents that come across the Atlantic from the south-west.

The census taken in 1930 showed that 30 per cent. of the people depended on agriculture or forestry for a living. This seems strange when one considers the scarcity of soil and the rather unfavourable weather. The explanation is that many of the farmers are fishermen also. During the local fishing season they leave their farms in charge of the women and children, while they make a little money by following the shoals of fish that pass along the coast. Only about 7 per cent. of the people depend entirely on fishing. Some of them go to the North and South Polar regions in search of whales. This mere handful of men obtain three-quarters of the whole world's supply of whale oil. This important oil is obtained by the very unpleasant process of cutting up and boiling the whale blubber. It is used in the process of annealing steel, as a lubricant on railways, and in the manufacture of margarine.

The farms themselves are small. Not one in twelve is 25 acres in extent; the average is of about 8 acres. They are owned by the farmers themselves. About two-thirds of the farm-land is grass-covered, and provides hay for the cattle and animals in winter. The ploughed land is used mostly for growing oats and potatoes. Wheat is grown in a few favourable sites in the south. In the summer the animals are taken to the natural pastures on the higher ground, sometimes at a considerable distance from the farm. Although the farmers cannot grow enough food to feed those who live and work in the towns, yet they get so much milk that huge quantities are sent to other countries condensed in tins or as a dry powder. Boiled fish and black rye bread, together with milk, butter, and cheese, are the most common diet of the small farmers.

In Southern Norway especially it often happens that the peasant farmer owns a piece of forest land, so that in the winter-time he cuts timber, and with his own horses drags it to the nearest watercourse. Here the purchaser marks it, and makes arrangements to have it floated down to his store-yard or saw-mill in spring-time, when the streams have sufficient water to float the logs. The ports are never frozen, so that the timber merchant can send his timber to market when he pleases, or when prices are highest.

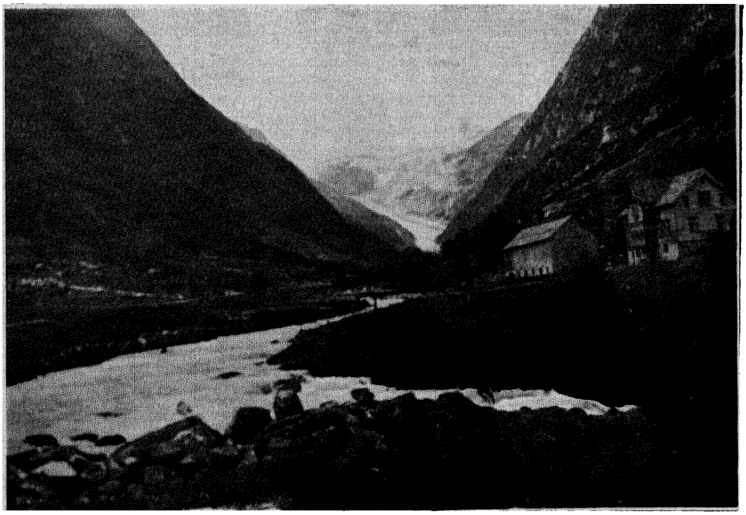


FIG. 27. A VALLEY IN NORWAY

Showing a glacier in the distance and the stream that issues from it. Notice the steep-sided valley.

By courtesy of Mrs C. A. Woodcock

A second third of the population depends for a living on the industries of the country. These industries are partly dependent on the agriculture, forestry, and fishing. Thus the condensing and the tinning of milk finds employment for some, the drying, curing, and tinning of fish is the work of others, and the forests supply wood for the paper and pulp factories and cardboard works. More important than these industries are the mining and smelting of ores, such as those of iron and, to a less extent, copper and nickel. There is no coal found on the mainland. Considerable quantities are imported from Britain, it being as easy to carry coal from Newcastle to Norway as from Newcastle to London.

Since 1910 coal has been mined to a considerable extent in Spitsbergen, and about 300,000 tons are obtained annually. The climate of Spitsbergen is cold for most of the year, but this is not altogether a disadvantage, since the danger of flooding is removed and the ground is firm for mining. The miners, who work throughout the winter, store the coal in enormous heaps until summer-time, when for five months the loading up of ships goes on at a great rate. Most of this coal is sent to Norwegian ports. Although within a few hundred miles of the North Pole, the mining settlements are quite up to date. The houses are well built and warmed, and are lighted by electricity. There are churches, schools, and recreation halls. What the people in Spitsbergen are really short of is daylight. For three months in winter there is no sun.

Lacking coal, Norway is using much water-power. Flowing into the Skager Rack are a number of rivers whose waterfalls and rapids are capable of being harnessed for the development of electricity. Already a considerable amount of electrical power is obtained; it is used for smelting the iron ores and driving the machinery in the sawmills and pulp and paper works. Oslo is the chief manufacturing centre. The other works are found in a number of little towns near the coast not far from Oslo.

Electrical power is used in every part of the country. For mining in the north, for the wood industries and smelting in the south, and also for chemical industries—the manufacture of sulphuric acid and salts for manures. Factories and workshops are dotted about the country wherever the power has been harnessed. This is possible because some raw material is close at hand, and imported raw material can be brought by sea to almost any part of the coast. Nine-tenths of the power used in industry is electrical, and more than half of it is from the Oslo district. The fishing industry supplies many small factories along the coast, especially near Stavanger. Brisling are caught in the fjords and sent to canning factories. Herrings are salted and sent to Continental countries. The smaller fish and offal are turned into fish meal and fish oil. The meal is used for fodder and for manure. Large quantities of salted herrings in barrels and fresh herrings in ice are exported annually, besides canned fish and dried cod.

PROBLEMS

1. If the Norwegian ships were divided out equally among the Norwegian people, every hundred people would have a ship of 86 tons. A similar division of ships in Britain and Greece would give every hundred British people a ship of 24 tons and every hundred Greeks a Greek ship of 26 tons. Are there any reasons to account for the differences in these figures? Is it the kind of country, the kind of goods, the kind of people, or the requirements of the home population that accounts for the differences? (The figures given are for the year 1933.)

2. The value of the imports into Norway has for many years been much greater than the value of the exports. How is it that the people are not bankrupt? Where do they get their money to pay for the difference, or what work do they do in return for this supply of goods?

3. The numbers of the different types of boats used in the fishing fleets and for coastal fishing in Norway in 1910 and 1919 were as shown in the following table:

Type of Boat	1910	1919
Sailing boats	3779	652
Decked motor-boats	2407	7995
Open motor-boats	505	4912
Steamers	183	287

Suggest reasons for the changes that have taken place. How do you account for the small number of steamers? Also suggest why motor-driven vessels should have an advantage for this kind of work. Which kinds of boat are most likely to be used for whaling, cod-fishing, and herring-fishing?

4. The chief exports to Great Britain in 1933 were:

Wood, cardboard, and paper	£1·5 million
Fish	£1·2 ,,
Wood-pulp	£1·5 ,,

For what industries is wood-pulp necessary? What kinds of fish are sent?

CHAPTER XIV

THE LAND OF THE DANES

THE land of the Danes is one of the smallest in Europe. Its soil was not naturally rich nor very varied, so that it is not surprising to learn that in early days they were tempted to ravage the coasts of more favoured lands and even establish kingdoms abroad. The number of place-names in Britain to-day which end in 'by' or 'holm' bears witness to the number and spread of their settlements. However, since the time of Napoleon the Danes have paid less attention to the world outside and more to their own little corner. Their attention has been guided by so much intelligence and determination that the country is now one of the most productive in Europe.

Like that of most of the lowland central plain of Europe, the soil is the result of the action of the ice-sheet. Here and there, however, in the east, chalky rocks pierce through the glacial deposits. The western edge of the country is largely covered with sand-dunes formed by the wind blowing the coastal sands inland. The country on the whole is very low, but slight hills occur both on the mainland peninsula of Jutland and on the islands.

Many of the islands have swelling surfaces of low corn-lands and magnificent beech-woods descending to the water's edge, but the scenic features are mainly due to man. An old red-roofed town, gleaming in the sunlight, is more conspicuous than the sandy hummocks of the land, and calls for notice from miles across the sea.

The climate of the country is not very favourable to agriculture. Since Denmark stretches from the latitude of the Tees to that of the Moray Firth, and is exposed to the same westerly winds, the weather experienced is not unlike that of our country. The winter, however, is rather colder.

As the country is practically devoid of coal-supplies, and has no swift-flowing rivers to generate electricity or turn mill-wheels, the people have only two possible ways of earning a living, by farming or seafaring.

The Danish farmer is famous throughout the world. If he has not turned this rather unfavourable countryside into a land of milk and honey, he has made it a land of bacon and egg, of butter and cheese. The farms are not large; two-thirds of them are under 50 acres. The fields are not alive with women and children hoeing and weeding —a familiar sight in Germany. Instead there are many animals tethered in the fields. Most of the fields around the whitewashed, red-tiled farmhouse are devoted to green crops—meadows for grazing, grasses for hay, roots for the winter food of the animals. The men do all the heavy work; the women look after the household duties, and perhaps help in the milking and the care of the younger animals in the farmyard. This is possible because the milk is collected by the co-operative van and taken to the butter factory, the pigs go to the bacon factory, the eggs are collected and sent to the local co-operative collecting centre. Butter- and cheese-making and bacon-salting are duties that do not have to be done on the premises. This frees the farmer's wife, and at the same time makes the goods more reliable, so that they command a better market-price.

The Danish farmer has applied his intelligence to making his land grow heavier crops, his hens lay larger eggs, his cows give more butter fat in their milk, his pigs develop better flesh for bacon. He needs, therefore, to develop intelligence as much as possible, so he sends his children to school, where they learn not only how to read and calculate, but something useful for farming, and even a foreign language—usually English or German.

If he can possibly afford it his sons and daughters, who have left school at fourteen, go back for six months or a year to a sort of college when they are eighteen. At these colleges they learn more that will be useful, but they also spend a great deal of time in gymnastics, singing, and folk-dancing.

About a quarter of the Danes live in the town of Copenhagen, the name of which means "Merchants' Harbour." There are no other large towns. Copenhagen became important because, until the opening of the Kiel Canal, all ships entering and leaving the Baltic had to pass along the narrow Sound—at its narrowest only two and a half miles wide—and the Danes compelled all passing ships to pay a toll for the privilege. At the same time, their own ships used to bring goods from Russia and the East, as well as from Britain and the West. The merchants who arranged for the exchange of goods became wealthy, and the city of Copenhagen grew in importance. During the last twenty years the trade with Britain has increased

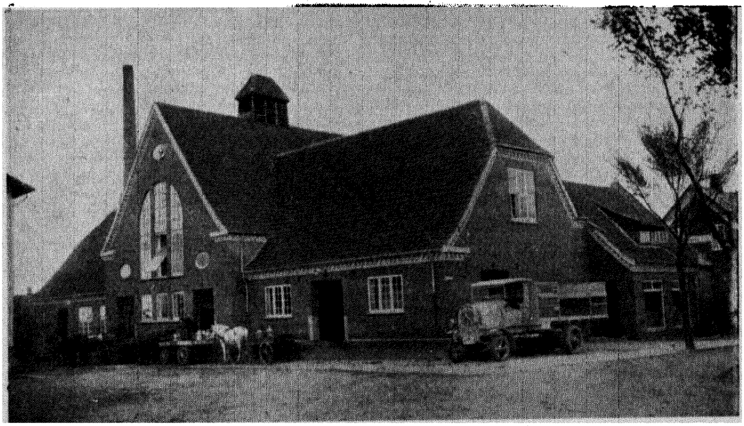


FIG. 28. A CO-OPERATIVE DAIRY IN DENMARK

Notice the farmers' carts loaded with churns of milk, from which butter and cheese are made.

By courtesy of the Danish Legation

considerably. Copenhagen is not very conveniently situated for this trade, for the voyage round Jutland is a long one. The Danes have built a harbour on the eastern side, and to-day there is a flourishing little town at Esbjerg, which has regular lines of ships going to and from Harwich in England.

Transport of goods and people between the islands and the mainland is made easy by ferry-boats built to carry trains across the arms of the sea. In towns the people use bicycles in great numbers. Naturally a certain amount of traffic goes by sea. Quite a number of Danes earn their living as fishermen.

The descendants of the early Scandinavian seamen people the island of Iceland, which is a meeting-place for the fishermen of all nationalities who go to the Arctic Seas for their catch. On the north coast there are whale-fisheries. The 100,000 people who live there either fish, make fish oil or manure, or rear sheep and cattle. They govern themselves, being now independent of Denmark, though the two states have the same king. Tourists visit the country to see the hot-water springs of volcanic origin, called geysers.

PROBLEMS

1. To what extent do you think the opening of the Kiel Canal will eventually affect (*a*) the trade of Copenhagen, (*b*) the trade of Denmark as a whole?

2. The majority of the people of Denmark and Iceland are engaged in agriculture. What, then, will be the nature of the trade between the two countries?

3. The population of Denmark is about 3,600,000. The number of Danish fishing vessels is 16,000. Assuming that there are four men to each boat, and that the average fisherman's family includes three children, what percentage of the population is dependent on fishing?

4. The rural population of Denmark is 2,000,000. In 1934 there were 3 million cattle, 3 million pigs, and 26 million hens in the country. Assuming that there are four persons to each family,

calculate the average number of cattle, pigs, and hens there will be attached to each household.

5. Measure the distance, by land and by sea, from Copenhagen to (*a*) Constantinople, (*b*) Venice, (*c*) Leningrad, (*d*) Paris. In each case state the physical obstacles to direct communication along the route.

6. Danish export trade is principally with Great Britain. Great Britain's share is four times that of Germany and fifty times that of France. Can you explain this?

V. THE ATLANTIC STATES

CHAPTER XV

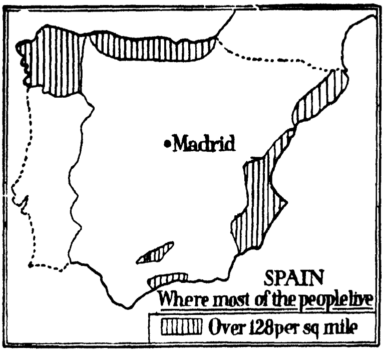
THE LAND OF THE SPANIARDS

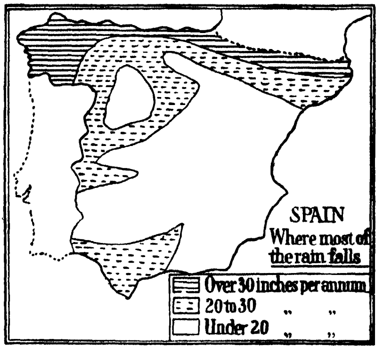
THE south-west corner of Europe consists of a great lofty and uneven plateau of very old rocks. It was at one time joined to the plateau of Africa, before the Straits of Gibraltar were formed by earth-movements. The more lofty Pyrenees separate this high plateau from the rest of Europe. Newer rocks in hollows in its surface mark the position of old lakes that have now disappeared. The Spaniards call this plateau the Meseta, which really means the "landing" at the top of a staircase. Comparatively few people actually live on the landing, or high parts of the plateau, except in Madrid. Practically all of them live on the stairs, or the edges of the plateau, especially on the lower stairs, or plains along the coast. The reason for this is that on the higher ground the rainfall is light and the climate severe, so that it is difficult for many plants and animals to flourish.

The Romans who established colonies along the south and east coasts had the water 'laid on.' They built several great stone viaducts to carry the river water across valleys to the higher stairs. A thousand years afterward, about the time of King Alfred in England, the Moors came across from Africa in their attempt to conquer the world for the Mohammedan faith. These Moorish people also 'laid on' water by means of irrigation canals to terraces that had been cut out of the hillsides on the southern slopes. Right up to the time when Columbus discovered America the Moors ruled the southern half of the country.

In order to grow plants, and especially fruits such as the grape, orange, and peach, soil, water, and sunshine are needed. In Britain we are rather short of sunshine, and we have not discovered how to get more. In Spain, and especially the south, there is some soil (though in parts not much) and plenty of sunshine, but little water. It is so hot that folks do not work in the middle of the day.

Among the 23,000,000 people who live in Spain it is possible to distinguish four differing types—the Basques in the north, the Catalans in the east, the Andalusians in the south, and the Castilians on the central plateau. The Basques are believed to be the original inhabitants. The Catalans are an energetic people, like their neighbours, the Southern French. The Andalusians are largely Moorish by ancestry. The homelands of these peoples are different from one another, and although the majority of them are farmers, yet in the north and east mining and manufactures are important occupations.





Northern Spain. This is the only really moist part of the country. The higher parts are forested with oak-, beech-, and fir-trees. The lower parts are cultivated. In spite of the northerly aspect of this part of the country the winters are very mild—so mild, in fact, that the growing period for plants continues throughout the year. Most of the people live in villages dotted about the valleys which divide the areas of higher ground. The farmer usually grows wheat and oats, and his animals are usually cattle for meat, milk, and transport. Pigs are numerous, and, according to the time of the year, are fed either near the house, in the orchard, or in the forest. The mildness of the winter enables the farmer to get his onion and potato crop gathered earlier than can the farmers in more northerly lands. A considerable quantity of onions and early potatoes find their way to our country.

Mining is the second important occupation in the north. For many years the iron ores obtained from the north-east have been shipped from Bilbao and smaller ports to the iron-smelting districts of Great Britain. Coal is also found and mined in the north. It is rather difficult to obtain, and were it not for a heavy import duty on foreign coal the mines would not pay for working. Moreover, it is much more difficult to get the coal taken by rail to the southern towns than it is to fetch it by sea from Britain. The port from which coal is exported to other parts of Spain is Gijon. The *annual* output of coal is equal only to a third of the British *monthly* output.

Bilbao is the only large town in the north. This is probably because a narrow strip of broken country is most conveniently served by a number of small local markets, each with its own little seaport. Even in the north the summers are much hotter than in England, and this probably accounts for the way in which the town houses are constructed. The buildings are usually arranged round four sides of a square. The centre of the square is a cobblestone court, or *patio*. Entrance to the *patio* from the narrow street is obtained through an archway. A well-to-do family may claim the whole of the buildings as their home. Working people usually share the four sides, and there may be four different families upstairs and four different families downstairs. The courtyard is a busy place. It is a playground for children, the drying-place for the washing, the scouring-place for the domestic utensils, and sometimes the working-place for the boot-repairer or joiner. It has one great advantage—in summer it is for most of the day a place of shade.

Although the town houses are much alike throughout Spain, yet each district has its own special type of food. The chief dish in the north is a mixture of meat, onions, garlic, potatoes, and olive oil all boiled up together in a large pot. The amount of meat depends on the wealth of the family. The pot is placed in the middle of the table, and each member of the household helps himself. The father of the family cuts off chunks of bread or meat with his clasp-knife. For drink water, cider, or chocolate is taken.

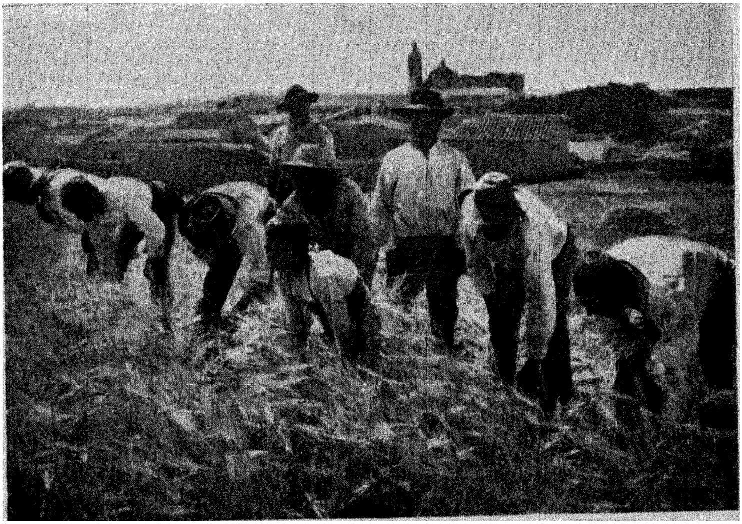


FIG. 29. A TEAM OF REAPERS IN CASTILE

Notice the bare aspect of the village in the background. There is little shade from the intense heat of the summer sun or shelter from the winds of winter.

Photo E.N.A.

The Meseta. If you travel by one of the few railways that leisurely convey goods and passengers to the interior you will come into a very different type of country. Frequent winter frosts and bitterly cold winds; scorching summers without rain for two months or more; great rivers that flow in deep gorges during the winter, and trickle in nearly empty, parched river-beds in summer; miles upon miles of uncropped lands, with occasional forests on the higher ground—such is the bare picture of the Meseta.

The villages and cultivated lands are always within reach of a stream or where wells can be sunk with profit. The land in between is given over to grazing. The shepherds wander about with their flocks to where pasture is obtainable. Herds of goats and swine are common; the country is too dry for milch cattle. It is a common practice for the milch goats to be driven through the smaller towns and milked on the customer's doorstep. This is a good thing in a hot country where sanitation is not of a high order.

The pigs are allowed to roam about almost wild until a few weeks before killing, when they are fattened up on the waste fruit of the orchards or the mast of the forests. The pigs are killed only in March and November. The meat is stored in the form of sausage, ham, or lard for the rest of the year. The peasant farmers, shepherds, and swineherds are very poor, and less than half of them can read and write. The huts which pass for homes usually have a living-room-kitchen, a cellar below for stores, and, above, a bedroom for young and old, reached by a ladder. Bensusan describes the village thus: "The narrow alleys between the hovels of sun-dried clay are the happy hunting-ground of thin chickens, aggressive pigs, and the loveliest little dirty children in the world." He likens the villages dotted about on the slopes of the Sierra to so many tiny white eggs on an anthill. In the north of the plateau the chief dish is a stew containing dried peas, potatoes, lard, and garlic, with as much meat as can be afforded, while in the south eggs, vegetables, and potatoes are cooked in boiling oil, and meat, when eaten, is in the form of sausage or raw ham. Kid's flesh is eaten in season.

From a typical peasant holding of 1½ acres an income of about £2 a month may be made, but barely a quarter of this is in cash, and this nearly all goes to the Government in the form of tax. Such a holding would contain a vegetable garden for peas, potatoes, garlic, lettuce, and cucumber, all of which require watering. Round it would

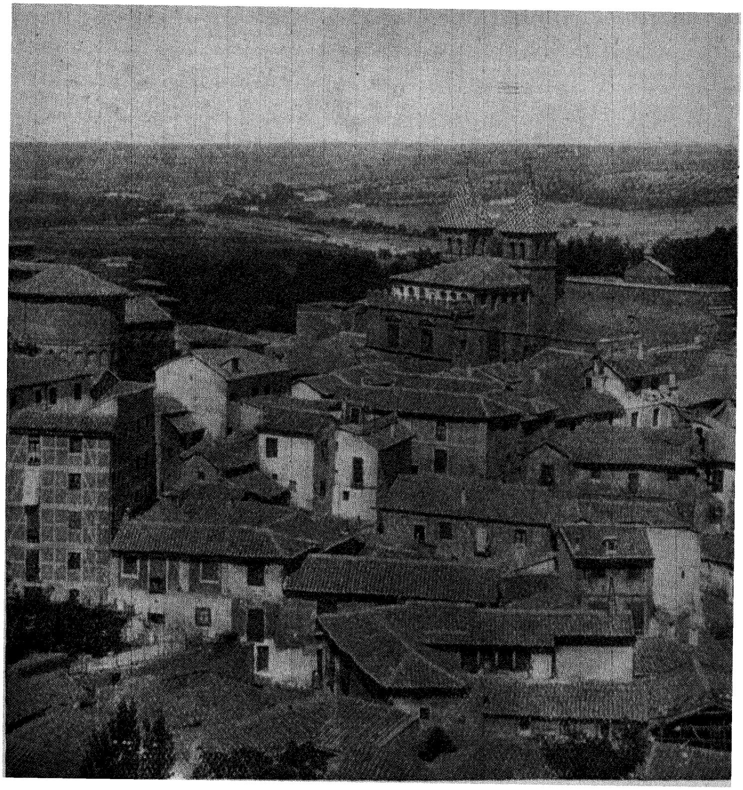


FIG. 30. A VIEW FROM TOLEDO ACROSS THE TAGUS VALLEY

Notice the regular rows of vines and fruit-bearing trees in the background.

By courtesy of D. H. Carding-Wells, Esq.

be ranged fruit-trees. There would be a small olive orchard. The olive crop would be taken to the press, and part of the oil left in exchange for services. The crushed olive would go back for the pigs or to be used as manure. If a little ground is devoted to wheat the grain would be taken to the mill, and a portion of the flour left in payment for grinding. The flour would go to the baker, who in turn takes his portion for the trouble of baking. Then there is the vineyard. From the produce of the vintage the peasant hopes to sell five or six pigskins of wine for cash wherewith to pay taxes and buy anything that cannot be obtained by barter. Lastly there is usually a well-tended fig plantation. When the figs are ripe the pigs are brought in from the company of the goats on the mountainside and fattened on the unsound and surplus fruit. The rest is dried and bartered with the grocer for supplies of sugar, chocolate, or salt. The grocer sorts, packs, and sends them to town. Possibly in a quarter of a century a successful and careful peasant farmer may have saved and paid to the grocer as bank agent a sum of about £20 sterling. The olive is a very important part of the produce, and provides human food throughout the year and pig food and manure in season. The peasant farmer's house, too, is lit with bad-smelling, feeble-burning olive oil lamps.

In the middle of the plateau region of Spain is an island of over 1,000,000 people, nearly all of whom live in or around the town of Madrid. This area is the least inconvenient centre for the Government of the whole country, and it owes its importance solely to this cause. It is also a military station and a university town, and many of the inhabitants of this island make a living by supplying the food requirements of military and civil officials.

Catalonia. This consists of the basin of the Ebro and a short coastal strip. It is the most prosperous and most progressive part of Spain. The country has mild, moist winters and hot, dry summers; good crops can be raised only on irrigated land, as the summer drought is long. However, where water is obtainable several crops can be raised in one year. The tributaries of the Ebro supply many irrigation canals. These rivers do not dry up in summer, because they are fed by the melting snows of the Pyrenees and the Castilian highlands. Along the coastal strip toward Valencia the small rivers are so drained for irrigation that in summer their waters fail to reach the sea. Farther south, in the region of Murcia, water is so precious that the cultivators buy it daily according to the requirements of their crops. The owners of the irrigation system supply as much water as is paid for each day. On the irrigated land anything from beans to bananas can be grown.

Eastern Spain is not rich in minerals, but it is, nevertheless, the chief industrial area of the country. Barcelona has few advantages beyond ocean communication through the Suez Canal with the East and an energetic people to enable it to develop manufactures. It is growing so rapidly that it now exceeds Madrid in population. The cotton industry is the most important. Cotton and coal are imported; silk and wool are in part home-produced commodities. But since the recent harnessing of the tributaries of the Ebro for the development of electrical power the import of coal has declined.

Andalusia. Southern Spain is the most fertile part of the country. It consists of the lowlands of the river Guadalquivir and the inland and coastal slopes of the Sierra Nevada. The summers are hotter than in any other part of Spain, and the winters are as mild as the month of May in England. Westerly winds bring rain in winter, but for several months in summer the light, variable winds are practically rainless. This is the part of the country which for six hundred years was held by the Moors, whose capital was Granada. The carefully irrigated gardens on the hill-slopes and the artistically ornamented houses and palaces remain as a reminder of the Moorish period of government.

This is essentially a fruit and wine country; Seville oranges, Malaga and Sherry wines, Almeria grapes, all come from Southern Spain. In addition to fruit-trees, the cork-oak is cultivated, and horses are reared on the marshes bordering the river. Oxen and mules, however, are the chief beasts of burden, though among the terraced gardens on the southern hill-slopes man has to do all the carrying himself.

The homes of the townsfolk are similar to those in other parts of Spain, except that the *patio* is often covered with lattice-work, to give shade from the summer sun. One of the most formidable problems of the housewife is to keep the home cool, and a constant subject of conversation is not the weather, but the comparison of the coolness of domestic interiors. In wealthy homes the *patio* has a fountain in the centre. The hot weather affects the kind of food eaten in summer. The chief dish at midday consists of a salad of lettuce, cucumber, and garlic made with oil and vinegar and covered with water and floating bread.

Although the mineral wealth of the area is considerable, no great quantity is mined. Most of the mining is controlled by foreign firms. Iron is mined near Almeria and ores of mercury near Almaden, but most important are the copper ores of the Rio Tinto mines, which are exported from the port of Huelva. Cadiz is the chief port of the region, though steamers can now reach Seville, the Guadalquivir being the only river of Spain which is navigable at all seasons by sea-going vessels. Cadiz owes its importance largely to the trade with South America. Even though this southern continent is no longer governed from Spain, most of its people are of Spanish origin (except in Brazil), and thousands of Spaniards emigrate to the southern republics every year.

It is believed by many that progress in Spain has been retarded by the high proportion of nobles and the large number of convents and monasteries, all of them taking a toll of the wealth of the country. Education is very backward, and little advance has been made in agricultural methods. Thus most Spanish wines and the olive oil are poor in quality, and obtain a poor price in the world's markets, in spite of the very suitable climate. However, since the establishment of the republic monastic houses have been reduced in number and attempts have also been made to improve educational facilities.

PROBLEMS

1. How would you account for the differences in the summer and winter temperatures of Bilbao, Madrid, and Seville, as shown in the following table?

Town	Average Temperature, January	Average Temperature, July
Bilbao . . .	47° F.	69° F.
Madrid . . .	40° F.	76° F.
Seville . . .	52° F.	85° F.

2. Draw a diagram to represent the elevation and vegetation along a line from Malaga to Gijon. Name the river valleys and the crests between.

3. The acreage (in millions of acres) of the chief crops in 1933 was as follows:

Wheat	11	Olives	4½
Barley	4½	Potatoes . . .	10
Oats	1½	Vines	3½
Rye	1½		

Why is the acreage given to potatoes, olives, and vines so large compared with that given to oats and rye? Consider the food of the people, the climate, and the export trade.

4. The numbers (in millions) of domestic animals in Spain in 1931 were:

Asses	1·0	Sheep	20·0
Mules	1·2	Goats	4·6
Cattle	3·6	Pigs	5·1

The corresponding numbers of animals in Sweden were:

Cattle	3·0	Asses, mules, and goats, a very small number
Sheep	0·6	
Pigs	1·6	

The area of the two countries is approximately the same. How, then, would you account for the differences in the numbers?

5. Madrid and Barcelona each have a population of over a million. The next largest towns are Valencia (340,000) and Seville (235,000). Describe the exact position of each, and suggest why there is such a great difference in population between the first pair and the second pair of towns.

6. Most of the foreign trade of Spain in 1933 was done with the countries mentioned in the following table. Suggest why this trade has developed, and what commodities are likely to be most important in each case.

IMPORTS FROM	MILLION PESETAS	EXPORTS TO	MILLION PESETAS
United States . .	137	United Kingdom .	158
United Kingdom .	87	France . . .	135
France . . .	64	United States . .	53
Germany . . .	97	Germany . . .	59
Argentine . . .	20	Argentine . . .	26
India . . .	29	India	½

CHAPTER XVI

THE LAND OF THE PORTUGUESE

THE southern portion of the western slope of the Spanish plateau is inhabited by the Portuguese. Although the boundary is ill-defined, the Portuguese have had a separate Government, except for a short period, since the Moors were driven out in the twelfth century. The boundary cuts across the river valleys at about the point where the rivers cease to be navigable. There are many wide valleys with fertile alluvial soil.

The northern half of the country is built of ancient rock and is not remarkably fertile; the southern half is of newer rocks. Unfortunately, the southern half has a drier summer than the north, but the whole of Portugal receives a considerable amount of rain from westerly winds that blow from the ocean for the greater part of the year.

Navigable rivers and a long coast on the open ocean induce many Portuguese to become seamen. While the Spaniards were driving the Moors out of Spain, the Portuguese were driving Moors off the sea. They discovered the route round Africa to India, and fought the Arabs to get control of the trade with India and the East. Portugal is the nearest part of Europe to South America, and Portuguese explored and later settled on the coast of what is now Brazil. To-day there are more than four times as many people of Portuguese blood in Brazil as there are in the home country. Brazil is to Portugal much as the United States is to the British Isles—in both cases one-time colonies have become independent nations. There is still much emigration, and it has been said that the chief export of Portugal is Portuguese.

Northern Portugal. In this part the vine grows everywhere, even where other crops are impossible. A good vintage means that the peasantry can live in moderate comfort, but a bad season almost means starvation. Most of the land is held in small holdings by peasant proprietors. In many of the better situations, especially in the Minho valley, there are the snug little veranda-fronted dwellings of returned emigrants who have made money abroad, usually in Brazil. In summer the gardens of these dwellings are overrun by vines, which climb over the houses, over the bushes, and up the trees.

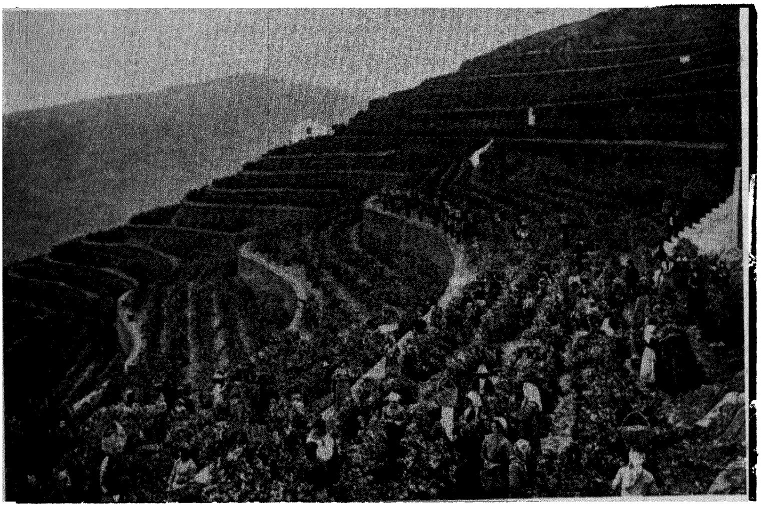
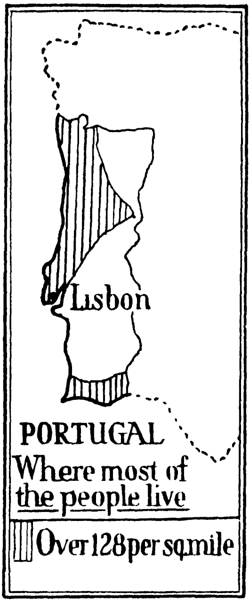


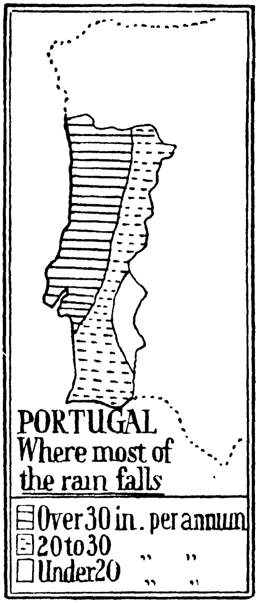
FIG. 31. A TERRACED VINEYARD IN THE DOURO PROVINCE OF NORTHERN PORTUGAL

Notice that the harvest is transported on men's backs. Why?

Photo E.N.A.

The valley of the Douro is the principal vine district. Here the hillsides are terraced. Long parallel lines of dark grey slaty stone walls support beds of what looks like finely broken slate rather than soil. This 'soil' and the walls are the product of human labour applied to the solid rock of the hillside. The terraces have from one to six rows of vines. In winter-time the terraces look like rows of great slate-pencils standing on end. Closer inspection shows rows of woody brown stumps in the ground and wires joining the tops of the pencils. In summer pencils and wires are smothered in green vines, from which in autumn bunches of red or green grapes hang.





The villages are rather dismal-looking collections of cottages with slate-covered roofs and walls. They are situated near wells or streams. A great deal of water has to be carried to the vineyards, to the lower ones from the streams, and to the higher ones from wells.

The grapes are taken in baskets to the press in the village, where they are trodden or else rolled by stones like millstones. The juice is drained off into great cement cisterns, and then taken in a cart to town. The cart is a primitive-looking affair consisting of a large barrel supported on an axle, which in turn is supported on two solid wooden plate-like wheels. This cart is drawn by one or more slow-moving, long-horned oxen.

Oporto, the second town of Portugal, is the chief collecting centre for the wine. Here it is stored, and from here it is exported. The town has become large, in spite of the steep slopes on which it is situated and of the bar which the river has built up with sediment at its mouth. Modern ocean-going ships cannot enter the river-mouth, but in earlier times, when ships were smaller, Oporto was an important shipping centre. The sailors from this part of Portugal were the first to develop the fisheries of Newfoundland, and although these fisheries are to-day mainly in the hands of the British, dried cod fish of powerful toughness and even more powerful smell is one of the most popular foods of the Portuguese peasantry.

Southern Portugal. South of the river Tagus the country suffers from summer droughts. The reclamation of the waste land requires more wealth and knowledge than the ordinary uneducated and poverty-stricken peasant can supply. Only about a third of the population can read and write. Men with wealth have, since the beginning of the twentieth century, begun to develop large estates, and, by the selection of suitable crops, such as alfalfa, and by building irrigation works, are turning the semi-wildernesses into veritable gardens.

Southern Portugal is a country of pork and cork. Much of the surface is covered with forests and plantations of cork and evergreen oaks. The oak-tree allows much light to penetrate to the ground underneath ; consequently plants will grow under it. The bushes are cut down so that pasture for sheep and goats and pigs is available. The climate is so mild in winter that shepherds and swineherds sleep out of doors throughout the year. The usual practice is to allow the pigs to exist on poor pastures for a year and a half or two years in a half-starved condition, and then to drive them into an acorn pasture, where for two or three months they live on acorns. The owner of the plantation makes an estimate as to how many pigs he can feed, and if he should find that he has not enough food to complete the fattening he sells some pigs to another owner who has a surplus of acorns.

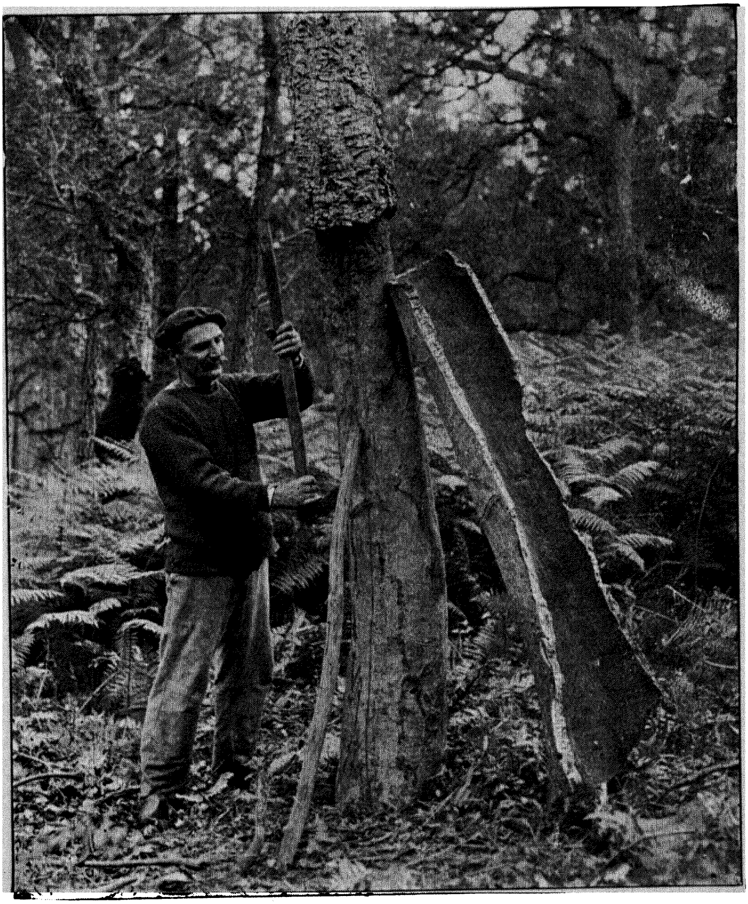


FIG. 32. CORK-OAKS

From Jordan and Cather's "High Lights of Geography: Europe" (copyright 1925 by the World Book Company, Publishers, Yonkers-on-Hudson, New York)

The cork-oak plantation starts with about seventy trees to the acre, and is gradually thinned out to about fifteen which have grown to full size. The thinnings and cuttings are made into charcoal. From the cork-oak plantation strippings of bark are obtained once in ten years. The people of the district use the cork to make chairs, cover doors, make troughs and drinking vessels for poultry and animals, and even beehives and dovecotes. Cork pails fastened with wooden nails, and into which cork lids fit tightly, are carried by wooden handles to the workers in the field or forest. In the pail there is a steaming stew containing bacon.

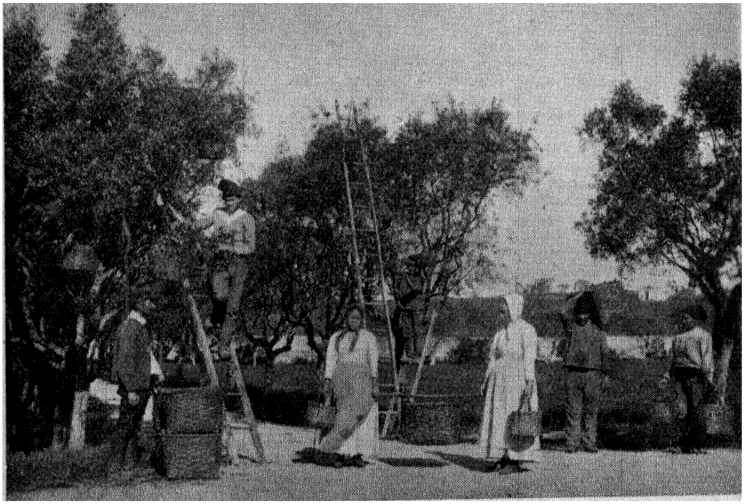


FIG. 33. HARVESTING OLIVES IN SOUTHERN PORTUGAL

Notice the clothes of the men. Do they suggest hot weather? At what time of the year was the photograph taken?

Photo E.N.A.

The evergreen oak plantations do not yield cork, but the acorn supply is much greater. The acorn in time of scarcity is used as a food for human beings. Some oaks are grafted on to chestnut-trees; this improves the flavour of the fruit, and the acorn fetches a price equal to that of the chestnut. Acorns have a feeding value about equal to maize, but the advantage of the oak over maize is that the pigs can do their own harvesting. This saves human labour and expensive machinery. Another advantage is that the tree will flourish on poor soil and in a dry climate, while maize will not.

A large estate has a white one-storied building surrounded by a creeper-draped veranda, in which the owner lives, as well as several small whitewashed cottages to house the families of the labourers and swineherds. Close by are rows of pigsties, each sty with its own walled-in little yard. The mother pigs are driven in from the forest at regular times. Each with a little assistance goes straight to its own squealing piglets, of which there may be several hundred altogether in the row of sties.

The labourer's cottage frequently contains only one large room. In the wall there is a cupboard with doors hinged horizontally. Inside there is a mattress stuffed with maize straw. The cupboard becomes a bed at night. In the middle of the room there is a log-fire, on which are several earthenware pots, one for each member of the family. Cheese, fruit, bread, and a little wine are all that are eaten in addition to the stew in the pot. Olive oil is an important article of diet. The swineherd often receives most of his wages in the form of flour, oil, and a sow with litter.

All the towns of Portugal except Lisbon and Oporto are either small market-towns or small fishing-towns along the coast. Sardine-fishing is an important occupation; much of the catch is packed in olive oil and exported.

Lisbon, the chief town, has one-twelfth of the population of the country. Its fine harbour, nearness to South America, and position on the route to the East, whether through the Suez Canal or round the Cape, have maintained its position as an important port of call ever since ocean traffic became important. Owing to the scarcity of coal very few people are occupied in manufactures. Cotton-spinning and weaving employ a few in Oporto and Lisbon. Wool, silk, and linen together provide employment for about the same number.

PROBLEMS

1. In 1933 the proportions of the chief imports and exports were as follows:

IMPORTS		EXPORTS	
Dried fish	6 per cent.	Fish	15 per cent.
Iron and steel	8 ,, ,,	Wines	24 ,, ,,
Coal	6 ,, ,,	Cork	11 ,, ,,
Raw cotton	6 ,, ,,		

Why does fish appear in both lists? Suggest the names of other possible exports not mentioned in the list.

2. Measure on the map the distance from Lisbon to the Azores and from the Azores to Pernambuco in Brazil and to New York. Compare with these the distances direct from Lisbon to Pernambuco and New York. By how much is the distance for aeroplanes increased if they break the journey at the Azores?

3. The following table shows the proportions of some of the foreign trade of Portugal:

IMPORTS FROM	PROPORTION	EXPORTS TO	PROPORTION
Great Britain	27 per cent.	Great Britain	22 per cent.
Germany	12 ,, ,,	Germany	9 ,, ,,
Brazil	1 ,, ,,	Brazil	7 ,, ,,

If the Brazilians are largely of Portuguese descent why is it that the trade with that country is relatively so small? Why are imports from Brazil small compared with the exports to that country?

In your answer consider the language, the distance, the climate, the type of exports, and the needs of the population of the other countries.

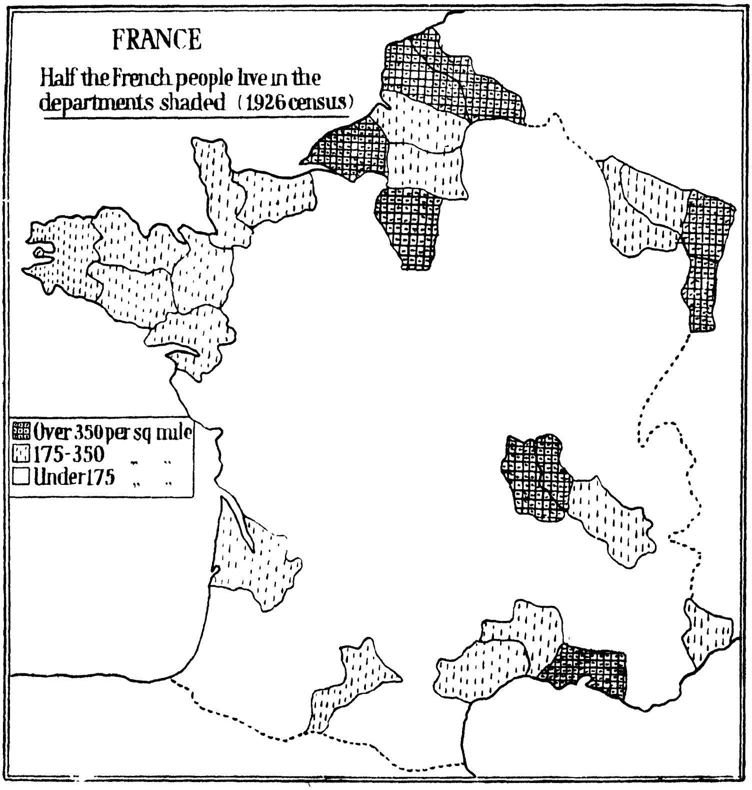
CHAPTER XVII

THE LAND OF THE FRENCH

THE kind of work which occupies the people of any land to-day is largely determined by the way in which the country was formed. What a man grows depends to a great extent on the kind of soil at his disposal; what he manufactures depends on the minerals in the ground and on the fibres which he can grow or otherwise obtain. To understand how their country was formed helps us to understand how and why Frenchmen in different parts of France earn a living by different methods.

In the days long before man lived here there were great mountain ranges stretching from the Atlantic eastward into Europe. These were gradually worn down, and largely submerged beneath the sea. Then great upheavals and crumplings of the earth's surface brought some of the old stumps of mountains above sea-level again. These form the regions of hard rocks, like the uplands of Brittany, the Ardennes, the Vosges, Auvergne, and the central massif. The hollows between them were raised more slowly from beneath the water, and form the lowlands of France, with their fertile soils. At the time when the old rocks were rising other regions were crumpling into gigantic ridges, known to-day as the Alps and the Pyrenees. The hollows, or basins, have the newest rocks at the middle and older rocks toward their edges; they thus have a great variety of soils, but nearly all are more fertile than the soils on the old uplands or the relatively newer highlands.

Try to imagine a set of basins each fitting neatly into the next largest in size, the centre one being rather like a small flat saucer. A fly in walking from the middle of this to the outside rim of the largest basin would pass over the edges of all the others. Assuming that the basins were of different colours, the fly would pass over, say, a green edge, then a purple edge, then a white edge, and so on. This gives an idea of the build of most of the lowlands.


FRANCE
Half the French people live in the departments shaded (1926 census)
▦ Over 350 per sq mile
▨ 175-350 „ „
☐ Under 175 „ „

Paris is the centre of a series of basins whose outer edge is formed by the old highlands of Brittany, Auvergne, the Vosges, and the Ardennes. Toulouse is the centre of a series of basins within the limits of the Pyrenees, the central massif, and Brittany. The surface edges of these basins are by no means regular, and have been cut into hills and valleys by the weather and running water. The third series, formed between the central massif, the Vosges, and the Alps, has been so crumpled, cracked, and worn that the shapes of the basins are no longer clearly to be seen; in fact, the Jura Mountains have been lifted up right across this area.

Most of the French people live in the basins, or lowlands.

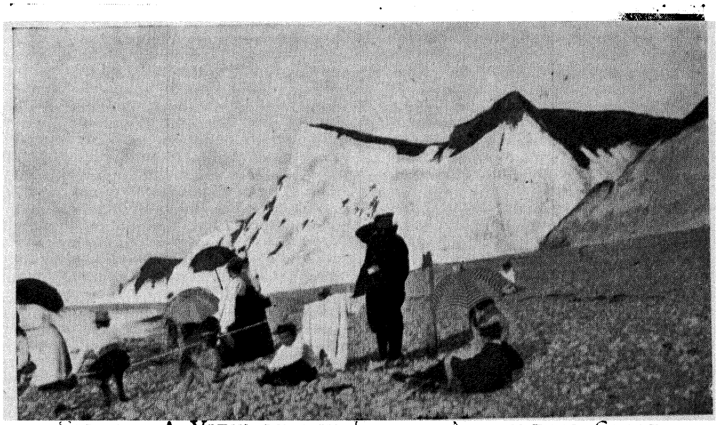


FIG. 34. A VIEW OF THE FRENCH NORTH-EAST COAST, NEAR DIEPPE

This is where the sea has cut through the chalk layer of the Paris basin.

By courtesy of W. B. Bradford, Esq.

The northern series of basins is the home of more than half of the French people. This will be the first area to be considered.

The Paris Basin. Taken as a whole, this is really unusually fertile. The rivers that have cut through the series of rock-formations on their way to join the Seine either above or below Paris have deposited on their valley floors soils that contain the substances derived from the several rock-formations. These mixed soils are always more generally useful than those derived from single rock-formations. Thus the farmers in the valleys are limited in their choice of crops only by the climate. The farmers who live on the chalk ridge which extends in a rough circle from Calais to Caen, in Normandy, with Paris at the centre, are interested in the raising of sheep. On part of the outer circle of limestone much of the cultivated land-surface is given over to the growing of vines. Limestone has two properties that make ordinary crop-growing difficult. It allows rainwater to soak through very rapidly, leaving the short-rooted plants without water. It also has a tendency to dissolve in the water, and to develop great cracks, through which the water gets away even more quickly. A plant which has a long root that can push down these cracks is able to flourish even when the surface soil is quite dry. The vine has a long root suited to such conditions, so we find that the limestone district of Champagne, to the south-west of this area, has given its name to a famous kind of wine. Limestone of the kind found in this district is easily quarried, and in fact the caves formed by solution provide cool cellars in which the wine can be stored for years, until its sharp, sour taste has gradually faded away. Much of the wine grown in the district is stored in the cellars of Reims and Épernay.

The growing of wheat is the chief work of the farmers of France, and the Paris basin is the most productive wheat area. Practically half the cultivated land is given to the growing of wheat. The farmer also needs food for his horse, and possibly for a cow, so oats and green plants such as lucerne are commonly grown. The potato is also a very important field-crop. In his garden or in the corner of one of his small fields the farmer grows lettuce, cabbages, and beans for his family's needs.

According to the law of France, at death a man's possessions are divided equally among his children. If several children have to share their father's farm, their portions are very small. Thus most French farms are small. Each farmer tries to grow a little of everything, whether his soil is suitable or not. For this reason he does not get the best return for his labour. The small size of the farm prevents the profitable use of expensive machinery. Sowing, reaping, hoeing, and weeding are done by hand, by the farmer or by his wife or children. The women work in the fields, and do their cooking, housework, and mending, besides milking the cows and tending the poultry. Every one, especially the womenfolk, works very hard.

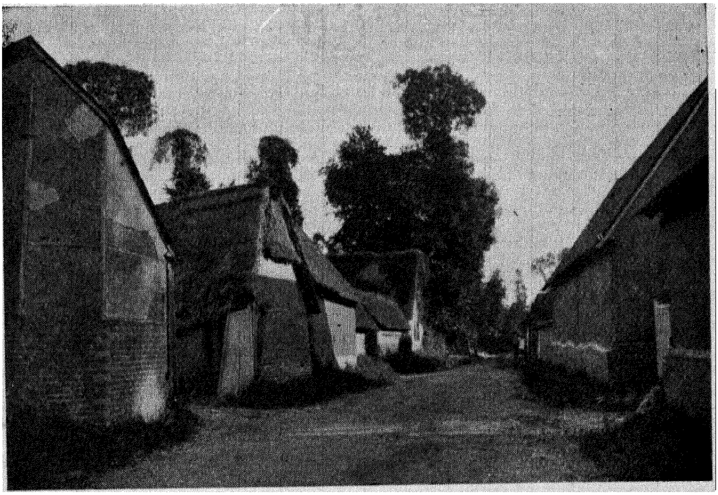


FIG. 35. A VILLAGE IN NORTH-EAST FRANCE

The farmhouses and yards are all collected together, yet they are shut off from the road by farm outbuildings. (It is possible to make out the entrances to four farmsteads, two on each side of the road.)

By courtesy of W. B. Bradford, Esq.

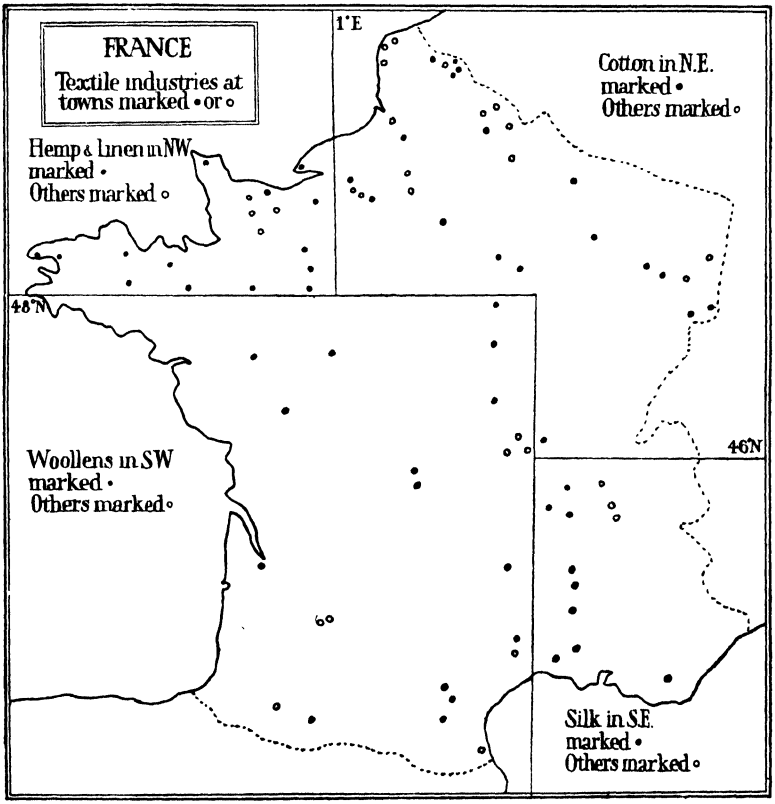
In many parts the countryside is not beautiful. On either side of the main road there is field after field, without hedges or walls to mark them off one from the other, for hedges and walls waste space. The horizon is broken by clumps of trees. Except for a roadside inn no houses are to be seen. As the road enters a clump of trees the traveller meets the farmers' homes. The roadway is often fronted by adjoining two-storied buildings.

In the middle of each is a porchway through which the farmer drives his wagon into the square yard behind, around which are the barns, stables, and cart sheds. Pigs, chickens, and refuse share the space in the yard.

The collection of the farms into villages has several advantages. On the higher levels, where water is not readily obtained, the houses can share a common pump or spring. The grouping of the buildings and trees affords shelter from the cold winds. Government, both by Church and State, is made more easy. The summers in this part are rather warmer than in South-eastern England, and the rainfall is hardly as great, so that the water-supply is an important consideration. The winters are, however, rather colder, and as there is no high ground to shelter the district from the cold north-easterly winds the protection afforded by the village is welcome, if not absolutely necessary. France is not rich in coal. Land is valuable for food-production; hence the forest area is small and the wood for fuel limited in supply. It is a common sight to see woodstacks by the farmhouses, especially in the west and south.

Most of the market-towns are found by the rivers, often in the gaps between the low hills. They are probably situated in these places because the valleys provide easy routes and the rivers the necessary water-supply for a large number of homes. Before the days of machines the Paris basin was a wealthy area. It supplied wine, wheat, and flesh for food, besides some wool and skins for clothing. A sign of the former importance of these towns is left to us in the many beautiful cathedrals. None of the towns are really large, except Lille and Roubaix, which owe their importance to the underlying bed of coal and not to the surface soil.

Only a few odd patches of coal seem to have been preserved in France. A little coal is accessible near the edges of the old blocks of ancient rock, some near the Ardennes, rather less in a few places round the central massif, and even less to the south-east of the Brittany highlands. Half the coal produced in France comes from an area within twenty miles of Lille. Local wool is insufficient to supply the present needs of the factories, and so some has to be brought into the country through the ports of Calais, Dunkerque, and Havre. Cotton is also made into cloth in the local factories; it has replaced flax and linen in importance, though these were originally so important that Cambrai gave its name to a type of linen cloth, the flax for which was grown in the neighbourhood. To-day the most important agricultural crop,



from the industrial point of view, is the sugar-beet. The French, who were cut off from their supplies of cane sugar by the English blockade during the wars with Napoleon, discovered and developed this other source of sugar. The most important centre for the manufacture of sugar from beet is Valenciennes, famous also for lace.

Most of the French towns strike us as being rather old-fashioned and primitive when compared to towns in our own country. This is because half our towns were mere villages when the French towns were already places of importance. In 1861 there were homes for 20,000,000 people in England and Wales; in France there were homes for 37,000,000. Since then, up to 1931, we have provided homes for another 20,000,000; while in France homes for only another 5,000,000 people have been needed. Thus the newer types of buildings in France are much fewer. The difference between the two countries is largely due to the development of the extensive coalfields in Great Britain, and to the work which is provided by the utilization of this coal by the manufacturing industries.

Paris, originally the fortified headquarters of a king who ruled over most of the Paris basin, was built on an island in the river Seine. It is easier to bridge two halves of a river than to bridge its main channel. A fortified bridge was useful in the olden days, not only for keeping undesirable people from crossing the river, but also for keeping equally undesirable invaders from passing farther upstream by boat. At least half a dozen considerable river valleys converge on to the Seine near Paris. Thus roads leading to Paris increased its importance as a marketing centre, as well as a centre of government and defence. In the day of small ships Paris was in communication with other countries by river and sea. River valleys with gentle gradients led to the valley of the Rhône and to the Mediterranean, formerly the centre of Western civilization, and to-day part of the sea-route to the East. Paris, too, is only about a hundred miles from the chief

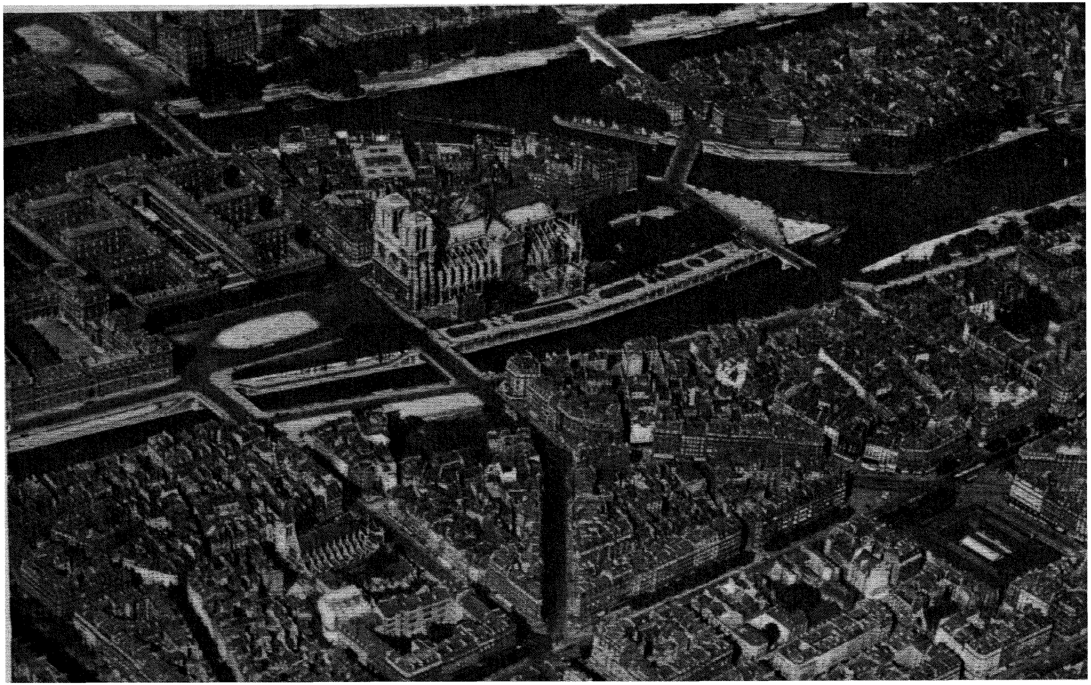


Fig. 36. An Aeroplane View of Paris

The illustration shows the island in the river around which the town has grown. Notice the number of short bridges.

Aerofilms, Ltd.

French coalfield. It can thus easily obtain coal either by river and canal from Lille or by sea from Great Britain. Consequently, to-day Paris has many factories; metal works, motor works, engineering works, besides factories for furniture and clothing, depend on the coal brought into the town.

The need for bringing raw materials and food to the large population of Northern France has led to the growth of two ports on the Seine. They are now two of the largest towns of France. Although Le Havre, the chief cotton port, is the larger of the two, the old town of Rouen deals with the greater volume of goods. It is the chief place for importing coal. The larger ocean-going ships cannot go so far up the river, and the time taken to follow the bends of the river adds an appreciable amount to the cost of transport. Rouen has an advantage over Le Havre in that it has direct railway communication by bridge with both sides of the river Seine. Most of the passengers and mails from Britain are landed at the smaller ports, Dieppe, Boulogne, and Calais.

Brittany. A line drawn from Le Havre to La Rochelle roughly cuts off a different kind of country. The lower ground is cut into small fields surrounded by hedges. The farmhouses are scattered over the countryside, and are connected with the roads by muddy tracks. Trees are numerous, though on the higher ground moors dotted with granite boulders are frequent. Apple-trees, both in orchards and along the roadside, are common. Their sour little apples provide the chief drink of the people in the form of cider.

The character of the countryside is determined by the facts that the rainfall is moderately heavy, the rocks are not porous, and the surface is very much broken by small river valleys. Almost the entire population is engaged in farming, except round the coast, where fishing is the occupation of many. The moist weather and the exceptionally mild winter mean that there is pasture for cattle all the year round. Thus a great deal of meat and dairy produce is sent from here to the chief towns of Northern France. The farmers can successfully compete with the people of the Channel Islands in sending early potatoes and tomatoes to the London and Paris markets, for the mild winters cause the plants here to be a month or more in advance of those in eastern or northern areas of the country.

Around the much indented, cliff-lined coast are many villages and small towns—*e.g.*, Lorient and La Rochelle—where the fisher-folk live. Not only do these fish for sardines and mackerel in the near-by waters, but some go to the Newfoundland banks. Brest is the chief coast town. Saint-Malo is the port for sending out potatoes and tomatoes. Nantes is the only really large town; its importance depends not on the rugged country to the north, but on its convenient situation for directing seaborne goods from America along the valley of the Loire to Paris and Lyons, two great centres of population.

South-west France. London has a warmer summer than Aberdeen, but the difference between that of Saint-Malo and the valley of the Garonne is greater. In this valley a hot summer and a rainfall no greater than that of the east coast of Britain, except close to the mountains, mean that only those plants will grow which require a limited supply of water. Wheat, barley, and oats are grown, and even a little maize. Many farmers, however, have small vineyards. Most of the wine comes from this part of France, though the vine is grown in a number of districts south of a line passing through Nantes and Paris.

There is a striking absence of towns along the Garonne in the two hundred miles from Toulouse to Bordeaux, yet there are many among the foothills and near the Pyrenees. This is partly due to the need for a *regular* supply of water. These hill towns are likely to become more important as the mountain streams are harnessed to produce electricity which can be applied for industrial purposes. The main stream of the Garonne is liable to floods, for the rainfall is heavy and sudden in the regions drained by its tributaries. Places in Southern France with a rainfall equal to that of Brittany have fewer rainy days—about 160 as compared to 220.

The people of the south-west have the reputation for being the best fed in France. Their countryside certainly provides them with a great variety of foods. All the cereals are grown; the vine flourishes in most parts; and if there is a shortage of butter and animal fats it is more than made up for by the large amount of goose fat which is used in cooking. Most of the million geese of France live in this area. Butter is readily obtained from South Brittany, and olive oil comes from the nearby coast of the Mediterranean. Above the vineyards on the slopes of the central massif are forests and plantations of sweet chestnut-trees. The nuts are dried and stored for future use, and frequently save the country-folk from the extreme consequences of a bad harvest, as well as providing fodder for their pigs. Chestnut skins are used to comb wool, the bark of the trees to tan leather, and the ashes of the wood to clean fabrics. The presence of a number of small towns where woollen goods are made indicates that the drier hillsides provide a supply of mutton, even though its quality is not very good.

Toulouse and Bordeaux, the two large towns of the area, are on the shortest route from the North Atlantic to the Mediterranean. A number of valleys converge toward the site of Toulouse, from whence a small canal has been cut to the Mediterranean. The canal, the road, and the railway all pass through the narrow gap, commanded by the old walled city of Carcassonne, between the Pyrenees and the Cévennes, a gap which is less than 600 feet above sea-level.

Bordeaux has become a large town partly because shoals and sand-banks on the coast to the south prevent the rise of any other harbour there. The sand for many years was allowed to blow inland, and gradually covered up the countryside. The French Government planted fir-trees to check the movement of the sand, and to-day "the Landes," as this district is called, is the largest forest area in France, and farms are being established again in the clearings and sheltered parts. Steamship lines start from Bordeaux to go to North America, the West Indies, and Morocco. The largest ships have to load and unload their cargoes farther down the estuary of the Gironde. At Bordeaux and at two smaller towns farther up the Garonne cotton goods are manufactured.

South-east France. Three-quarters of this area is over 1000 feet above sea-level. The people are crowded into the valleys of the tributaries of the Rhône and into the Rhône valley itself as it widens out between the Alps and the central massif toward the Mediterranean coast. South of the junction of the Isère with the Rhône is an area with a climate differing from that of every other part of France. Practically all the rain comes in heavy downpours during the autumn, winter, and early spring months. The summer is so dry that the smaller, shallow-rooted plants are parched brown unless they are fortunate enough to be shaded by some deep-rooted tree or bush. The summers are distinctly hot, and the winters can be described as mild, although in places and at times a cold wind may blow from the central massif. This wind is known as the 'mistral.'

The farm work is very varied. If grain is to be sown, this is done in the autumn, so that it can begin to grow during the wet season. If silkworms are reared, the farmer and all his family are kept busy for about six weeks in the spring stripping the leaves off the mulberry-trees to satisfy the tremendous appetites of the silkworms. Practically every farmer and small tradesman has a vineyard, and the vine is the most widespread crop. The young shoots from the old stumps begin to call for attention in the spring, and need spraying in dry weather to keep away blight. In early summer the grain is harvested by hand. In August and September the grapes in the vineyards are gathered. From then until November there are the olives and the chestnuts to pick. The ground has then to be prepared for the next season's grain crop. In the intervals between these tasks the garden crops, such as beans, lettuce, and melons, must get some attention, for fresh beans, lettuce, and melons are very acceptable items of diet during the hot summer weather. There are few farm animals. The fields are small, often on steep slopes, and as there are practically no summer pastures the goat frequently takes the place of the cow as a milk-producing animal.

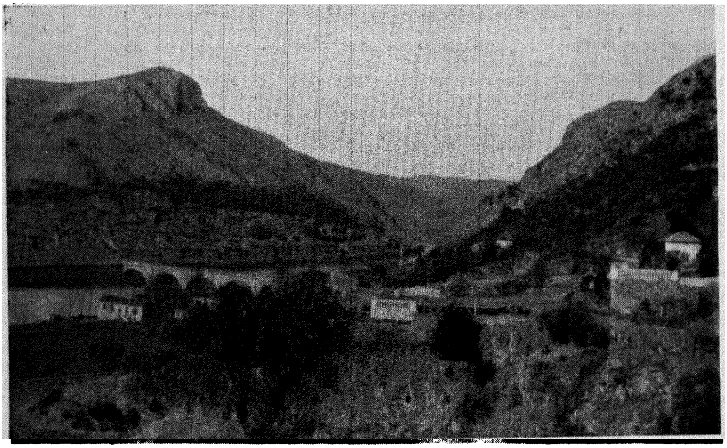


FIG. 37. ANDUZE, AN ANCIENT PROTESTANT STRONGHOLD ON THE EDGE OF THE CÉVENNES

The vineyards, olive-trees, and *chalets* are on the opposite side of the river from the town. Notice the bareness of the mountains and the steepness of the valley sides.

By courtesy of W. B. Bradford, Esq.

Between the Rhône and the Italian frontier there is much mountainous country. Here the rainfall is fairly heavy, but in the drier summers the farmers take their cows and goats to the higher pastures, which are snow-covered in winter. The keeping of animals for dairy purposes is the chief occupation of many people. Much of the cheese and condensed milk consumed in France comes from this part of the country. Actually the volume of milk produced in France as a whole is double the volume of wine produced.

The steep fall of the rivers means that much energy could be obtained from electric power-stations. Half the water-power of France is in this district. Already the Isère, the Durance, and their tributaries provide electrical energy for textile and other works, but not one-tenth of the possible power has yet been harnessed. Just to the west of the junction of the Rhône and the Saône are some small coalfields. Their presence has brought many people to find a living on what is otherwise a rather infertile plateau.

In many of the smaller towns near by there are textile factories, iron works, and chemical and engineering works. At Saint-Étienne large numbers of people are engaged in coal-mining, many others in the manufacture of silk ribbon, and yet others in making steel goods. Clermont is situated in one of the most fertile valleys of France. Much preserving and packing of food is carried on in the town, besides the making of rubber goods, motors, and aeroplanes. It is the centre of a ring of small coalfields, and is situated on the secondary route from Paris to the Mediterranean, along the valley of the Allier.

Lyons, the third largest town of France, has grown to its present size largely because it is the meeting-place of several important routes along river valleys. Road and rail and canal join the Doubs with the Rhine and Germany; road and rail join the Saône with the Moselle; road, rail, and canal join the Saône with the Marne, the Yonne, and the Loing, which lead to Paris and to the industrial districts of the north-east, and also with the Meuse, which leads into Belgium. By the valleys of the Rhône and the Isère there is rail communication through the Mont Cenis tunnel to Italy; lastly, the Rhône valley itself affords an easy land-route to the Mediterranean and the East. Lyons is the headquarters of the silk-manufacturing industry. Coal is near at hand, silk comes from the Rhône valley itself, from China through the port of Marseilles, and from North-west Italy by rail through the Mont Cenis tunnel. Artificial silk is made in the town, and is used in the textile mills. The Rhône below Lyons is not much used for river traffic, for its current is too swift at flood-times. A scheme has been developed for regulating the flow and providing electricity at the same time.

FIG. 38. A FRENCH CANAL

From Jordan and Cather's "High Lights of Geography: Europe" (copyright 1925 by the World Book Company, Publishers, Yonkers-on-Hudson, New York)

This would give Lyons the advantage of considerable electric power.

Les Baux, a small town near the Rhône, just north of the delta, gives its name to a clay from which aluminium is extracted. The department of Var is one of the chief bauxite-producing regions of the world. Great quantities are exported from Toulon, which is the largest town in the department, and the Mediterranean base of the French Navy.

The adjoining department has become famous on account of its mild winter climate and fine scenery; its coast is called the Riviera. The climate and scenery have attracted visitors, and as a result Nice has grown into one of the large towns of France.

But the Riviera has advantages which would otherwise make it a thickly populated region. The coast has many sheltered bays, each with its own sandy beach, where fishing is good and safe. The lower slopes of the valleys produce grain, olives, fruits, vines, or vegetables; the higher slopes supply chestnuts and timber. The mountains provide summer pasture. Thus practically all man's needs in the way of food can be obtained by the application of labour to the soil, and the navigable sea puts the population in touch with the rest of the world.

The chief port of Southern France is Marseilles. It is not situated at the mouth of the Rhône, but to the east of it, for the silt brought down by the river forms sandbanks, which endanger shipping. The current gradually washes this matter westward, so that ports on this side of the river are gradually rendered useless. The sands have enclosed lagoons along this coast. Towns which were seaports in the time of the Romans are now well inland. Marseilles thus has no competitor, and as industry demands more coal, oil, vegetable fats, silk, and wool the business of Marseilles grows. It has been considered necessary to cut a tunnel nearly five miles long under the hills to the Étang de Berre and the Rhône in order to make quays and storage room for the bulky goods, such as coal and oil, and to secure communication with the waterways to the north. Since France gained control of Algeria that country has developed, and considerable supplies of grain, meat, and wine are brought across to Marseilles. Many passengers from the British Isles to the East cross France to Marseilles to avoid the voyage through the Bay of Biscay or to save time on the journey.

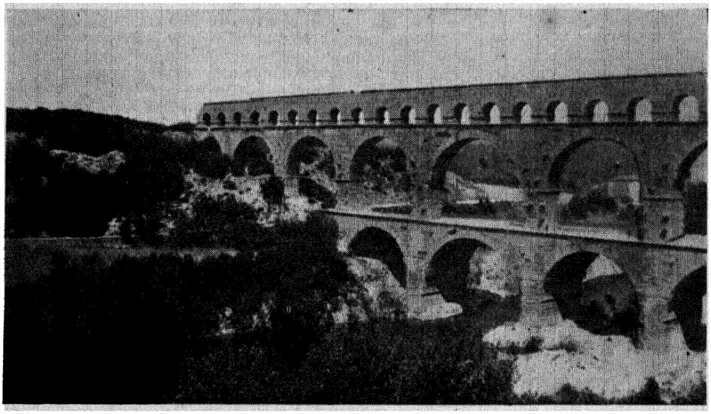


FIG. 39. BRIDGE AND AQUEDUCT BUILT IN SOUTHERN FRANCE BY THE ROMANS

Water was conveyed across the valley by a channel on the third tier of arches. The bottom tier of arches supported a roadway.

By courtesy of W. B. Bradford, Esq.

Between the limestone edge of the Paris basin, from the sheep-lands of the Argonne to the vine-lands of the Côte-d'Or, very broken hill-country stretches eastward to the Rhine. In the valleys of the Meuse, Moselle, and Rhine there is much valuable agricultural land, but the chief importance of this district to France as a whole is that it contains large quantities of iron ore, besides some coal. The acquisition of this area, Lorraine, has made France one of the chief iron and steel countries of the world. Iron and steel manufactures are carried on in a number of towns between the Meuse and Moselle, the most southerly and also the most important being Nancy. This town is connected by rail and canal with the Sarre coal-field, with the Marne, and with the Rhine at Strasbourg.

Besides being a river-port, Strasbourg has silk mills and flour mills. It is the chief centre for the French part of the Rhine valley. Cotton goods are made in the small town of Mulhouse, south of Strasbourg. The district around Mulhouse is important as being one of the two chief areas in Europe with underlying beds of potash salts. These salts are exceptionally valuable, as they form a good manure, which the farmers of France really require.

The forested Vosges Mountains, which divide from France the lower part of the Rhine valley, are of importance chiefly because they present a serious obstacle to transport for some sixty miles in a north and south direction.

PROBLEMS

1. The flow of water in the four chief rivers of France at flood-time and at low water is as follows:

River	Flood-time	Low Water
Loire (at Orléans) .	565,000 cu. ft. per sec.	1,590 cu. ft. per sec.
Seine (at Paris) .	56,000 ,, ,, ,,	1,870 ,, ,, ,,
Garonne . .	424,000 ,, ,, ,,	1,300 ,, ,, ,,
Rhône . . .	530,000 ,, ,, ,,	17,600 ,, ,, ,,

Which rivers are the most variable? What consequences will this variability have on (*a*) navigation, (*b*) agriculture in the valley of the river, (*c*) the position of towns? At what times in the year do flood and low water periods occur? Has the variation anything to do with the rocks underlying the river basin or the weather experienced in the basin?

2. Suggest why most of the wool mills are in the south-west, the hemp and linen mills in the north-west, the silk in the south-east, and the cotton mills in the north-east of France. Consider the influence of the source of the raw material, the source of the power, and the influence of climate.

3. The following list gives the tonnage (1934) of the ships calling at, and the tons of goods loaded and unloaded at, the five chief ports in France:

Town	Vessels	Tonnage of Ships Cleared in Millions of Tons	Tonnage of Goods in Millions of Tons
Marseilles . . .	13,600	27	6·3
Cherbourg . .	1,800	13	—
Rouen . . .	4,300	5	8·4
Le Havre . . .	13,800	15	4·6
Dunkerque . .	3,900	5·5	4·6
Bordeaux . . .	3,600	4·5	4·4

Suggest why Havre has more vessels than Marseilles but a smaller tonnage, and why Rouen has more goods unshipped (bulk). Calculate the average tonnage of ships using the ports of Cherbourg, Rouen, and Bordeåux. Consider the type of goods landed, the origin and destination of the goods loaded and unloaded, the depth of water at the port, and the density of population in the area served by the port.

4. "Fundamentally the vine is a kind of organic pump which brings water from the sub-soil to within man's reach" (Newbigin). Explain what is meant by this sentence, and show why this plant is more valuable to man in some parts of France than in others.

5. Draw two rough sections to show the relief (*a*) from Toulouse to Lyons, and on to Strasbourg, (*b*) from Nice to Lyons, and on to Rouen. In each case carry the section on to the political frontier. Name the chief crests and valleys. Give reasons for and against the view that Lyons would make a better administrative centre for the whole country than Paris.

In your answer consider (*a*) the situation of the coal-mines, (*b*) the source of most water-power, (*c*) the distribution of population, (*d*) the source of imported raw materials, and (*e*) the difficulty of the chief transport routes from the two towns.

6. Of the 1,500,000 vine-growers in France in 1924, 400,000 had holdings of less than six-tenths of an acre, another 400,000 had less than double that amount, while yet another 500,000 had less than 5 acres. Why are the holdings so small? Consider

the requirements of the plant, the requirements of the law, and the surface of the countryside. The average yield is 400 gallons per acre. What proportion of the growers supply more than the requirements of their own family? Remember that the summers are hot and that practically no water is drunk in the vine-growing regions.

7. The business of the chief air-ports was as follows (1926):

Air-port	Passengers Transported	Goods Transported, in Kilos	Letters Transported, in Kilos
Le Bourget (for England, etc.) .	23,932	1,100,000	3,789
Toulouse (for Spain and Morocco) . .	856	11,610	98,000
Marseilles (for Algeria)	174	1,070	30,787

Suggest why most passengers use Le Bourget; why most mails leave Toulouse; and why nearly ten times more mails go through Marseilles than through Le Bourget. Consider obstacles, populations, volume of trade, alternative transport, and the speed of the alternative transport.

VI. THE CENTRAL STATES

CHAPTER XVIII

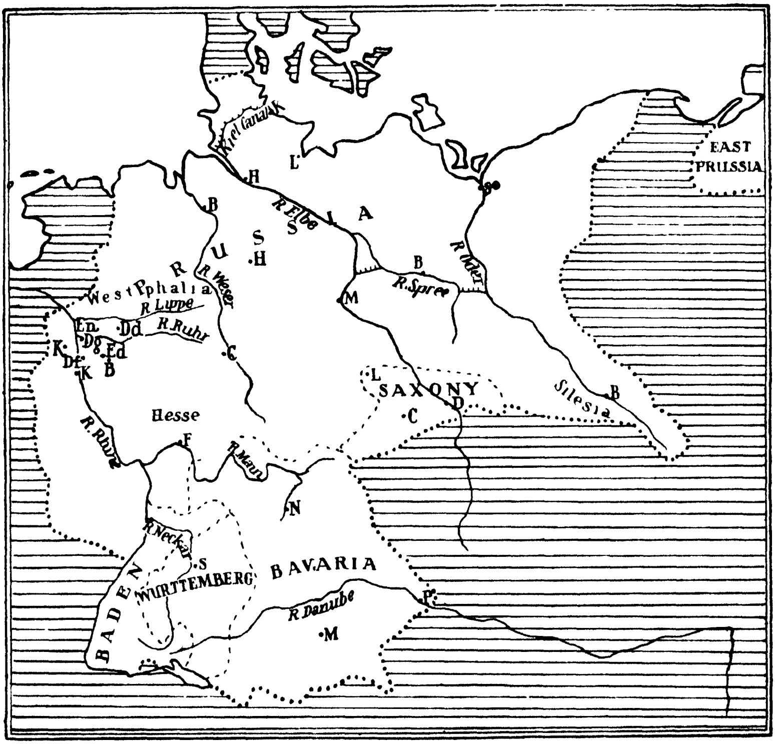
THE LAND OF THE GERMANS

TO-DAY the Germans inhabit a land which can be thought of as consisting of two rectangles, a highland square in the south and a long oblong plain in the north. The states in the southern square are Hesse, Baden, Württemberg, and Bavaria. The northern oblong consists principally of Prussia (including Westphalia and Silesia), Saxony, and East Prussia.

South Germany. The highland section is broken up by numerous valleys, through which flow rivers of various sizes. At the time when the Romans were ruling most of the then known world these river valleys were inhabited by many tribes, some of whom were called Franks, some Allemands, and others Germans. They developed little kingdoms, and gradually, after much fighting, extended their rule over some of the peoples living outside their highland home.

The southern peoples, who became Christians first, as they were nearer to Rome, conquered the northern people, and in the end the northern peoples known as Saxons and Prussians adopted both the German language and Christianity. It took about a thousand years before all the land was brought under one rule. After Napoleon had been overcome the Germans came under one Government, their motto being *Deutschland über Alles*, which originally meant "Let us all be Germans first," and not merely Saxons, Bavarians, or Prussians. Similarly, we think of ourselves as British first, and English, Welsh, or Scottish afterward.

The highlands of the south are extremely irregular in arrangement. This irregularity has been produced by various earth-movements that have taken place during and since the formation of the rocks that now show on the surface. The Vosges and the Black Forest in the south, the Hunsrück and Taunus in the north, and the Böhmer Wald in the east are ridges of very ancient rocks. Just north of the Danube, running right across Bavaria, is a stretch of limestone and other rocks of about the same age. The floor of the Rhine valley itself is covered with the youngest rocks of all. During these earth-movements a split or rift occurred which divided the Vosges and the highlands of the west from the Black



Forest and the highlands of the east. The rocks which had originally been on the surface sank down and were covered over in the course of thousands of years by water-borne sands and muds. Along this rift valley to-day flow the river Rhine and some smaller streams. We see on the map that the courses of the rivers Neckar and Main are extremely tortuous, which suggests that the arrangement of the highlands and valleys in Southern Germany is very irregular. About a third of the area is drained by the river Danube and its tributaries, which carry their water half-way across Europe to the Black Sea.

Although Germany is one of the chief manufacturing countries of the world, yet a large proportion of the people is engaged in farming. The farmers in the south have on the whole an easier task than those in the north. From the point of view of weather, it is unfortunate that South Germany is such an elevated region, for the result is that these highlands of the south are no warmer than the plains of the north. However, the valleys are sheltered, and the soil in them is good, so that a variety of crops can be grown.

The South German villages are essentially farming villages. They are collections of from a hundred to a thousand farmhouses, built of stone, with overhanging tiled roofs, and each with a small yard in front. Whatever the size of the farmhouse or its artistic adornment, it has in its yard a manure heap and liquid manure tank. A farmer's prosperity can be gauged from the size of the heap, since this indicates the number of animals he can maintain. The overhanging eaves of the house act as a shelter for his wood fuel.

Most of the farms are small—10 to 20 acres. They are self-supporting; the farmer aims at feeding both the family and his animals on the crops grown. This means careful manuring, and hence the importance attached to the heap. Practically all the hard drudgery associated with crop-raising by hand-labour falls to the lot of the women. Weeding, gleaning, hoeing, carrying, barrow-pushing, and animal-tending are done by them. Ploughing, wood-cutting, and buying and selling are the work of the men. Of recent years the farmers and their sons have more and more become factory-workers in the nearest towns, going backward and forward by very cheap trains to their daily work. The factory hours and the school hours allow all members of the family to give some time to the work of running the farm. Practically all the peasants own their farms, and so are tempted to work very long hours, because they know that they will benefit by the better crops and the more carefully tended animals. The women shoulder the double duties of farming and housekeeping.

In many villages to-day there are houses which look like farmhouses, but are really factories where perhaps from ten to thirty men may be working, making artificial jewellery, toys, wooden articles, leather bags, clocks, or clockwork motors. The industries which are not suited to the small factory system are iron- and steel-making, dyeing and dye-making, electrical machine building, and similar work, all of which demand large premises or large capital expenditure.

Dark brown rye bread, potatoes, cheese, a little cured fish, innumerable brands of sausage, together with beer, cider, or inferior wine, are the home-produced articles of diet, and, except for margarine, which is made largely of foreign vegetable oils, practically everything consumed is produced in Germany. Even the tobacco is mostly home-grown. This means that there is a lack of variety in the food, and also that the trade with foreign countries is not in food products.

A somewhat different position exists in regard to clothing. Germany supplies enough material to clothe her people, but the wool, cotton, and other fibres are largely imported. Hosiery and boots are mostly made in small factories.

Bavaria. Bavaria is an upland region sloping gently down from the Alps to the Danube and rising again to the Böhmer Wald. On the bleak, cold, wind-swept highlands are to be found forests of fir-trees. The felling of trees and the care of the forest occupy some of the people. Grimm's fairy tales give us glimpses of this forest country.

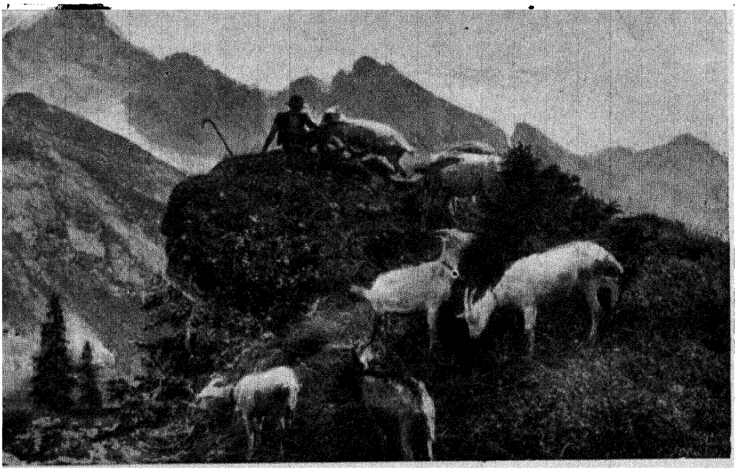


FIG. 40. GOATS IN THE BAVARIAN HIGHLANDS

Goats are nimble, and can make a living off very rough and varied pasture, even above the tree-line on the mountain-sides.

Photo E.N.A.

To-day there are many clearings in the forest where farmers try to grow the hardier crops, such as rye and oats, and where they pasture a few cattle and rear pigs. The houses in these parts are usually very tall three-storeyed wooden buildings. The ground floor provides shelter for the animals, the middle floor is where the family lives, and the top storey is the barn where the hay and grain for the winter are kept.

During the winter, when field-work is impossible, a great amount of time is spent in making wooden articles. Toys, largely made in the winter-time, are sent to other countries. The town of Nürnberg has become noted as a market for these toys. Another industry is the making of lead pencils. The highlands provide no coal, and few minerals except a little graphite, found near Passau, which is the basis of the pencil industry. Another important industry for which Nürnberg is noted is the making of electrical instruments. Their manufacture does not require great weights of metal, but calls for considerable technical skill. The Germans have paid great attention to building schools and arranging for the technical training of boys throughout the country. A high standard of skill and education more than compensates for the distance of the supply of raw materials, since it is frequently easier to carry the materials to the workmen than to carry skilled workmen to the source of the material.

Munich, the other large town in Bavaria, is the seat of government and a university town. It is one of the most important centres for the making of scientific instruments. This also is an industry which requires much skill rather than an abundant supply of raw materials.

Württemberg. The rather hard conditions of the Bavarian farmer stand in contrast to the favourable conditions in the lowlands of the adjoining state of Württemberg. In the valley of the Neckar and its tributaries there is a great variety of crops. Wheat, rye, barley, and oats are the grains grown, but this is the only area in Germany where the acreage given to wheat is greater than that given to rye; it is here three times as great. The summers are warm enough for vines, and considerable quantities of wine are produced, although less than an eighth of the area given to wheat is covered by vineyards. Cattle are more numerous, but pigs and goats less numerous than in other parts of Germany. This is a sign that the land is richer. Pigs and goats are more frequently kept where the pastures are poor or the farms small, because these animals can live on inferior and rough food. Stuttgart is a considerable town, situated in the centre of this rich agricultural region. Besides being the capital of the state, it contains several hosiery and piano factories.

Baden. Between Württemberg and the Rhine lies the Black Forest ridge, which forms a sort of backbone to the state of Baden. The beauty of the scenery has for many years attracted visitors from all over Europe. The lower slopes of the ridge are notched by small streams and dotted with red-roofed villages. The carefully tilled ground bears vines, tobacco, and hops, as well as rye, wheat, and oats. The low-lying meadows bordering on the Rhine produce quantities of hay, and provide pasture for many cattle. Except for Karlsruhe, there are no large towns in this area. Pforzheim, at the northern end of the ridge, provides the world with large quantities of artificial jewellery.

As Southern Germany produces no coal, a considerable quantity is brought from the Ruhr coalfield. Most of this is carried in large steel barges of from fifteen hundred to three thousand tons capacity. Such large barges cannot safely go beyond Mannheim and Ludwigshafen, two towns opposite each other on the banks of the Rhine. Here the coal is either put on the rail and sent into the interior or transhipped to barges of from three to six hundred tons and towed in these by tugs up the river to its destination, which may be as far as Basle. The size of these barges can be imagined when their capacity is compared with that of an ordinary English train of forty ten-ton trucks. Some of the larger barges could easily take four such trainloads. It is no uncommon sight to see a tug pulling half a dozen large barges up or down stream.

Hesse. The northern part of the highlands is occupied by the state of Hesse. Frankfort on the Main is the real centre of this district. It shares with Ludwigshafen and Mannheim the advantages of an easy connexion by water with the Ruhr coalfields. Such heavy chemicals as sulphuric acid, nitric acid, and soda, made from iron pyrites, salt, and coal, are sent to towns where skilled chemists obtain from them many valuable products, such as dyes, explosives, manures, photographic materials, and materials for soap-making, bleaching, and glass-making. Iron is mined in hills to the north, and salt is obtained from other parts of South Germany. A third of Hesse, including all the high ground, is forested. The lowlands produce vines in the sheltered parts; the chief crops are rye and potatoes. As in the northern and eastern parts of Germany, pig-rearing is important.

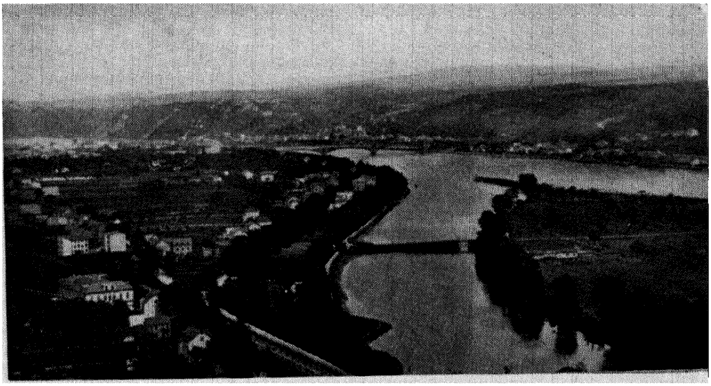


FIG. 41. COBLENZ

This is the junction of the Moselle and the Rhine. Notice the low plain land that has been built up between the two rivers, and also how steeply the hills rise from the bank of the Rhine.

Photo E.N.A.

North Germany. During a very remote period a change came over the climate of Europe and it became intensely cold, and for perhaps millions of years a great ice-sheet covered the northern plains. This slowly moving ice then covered the surface of what is now Finland, Norway, and Sweden, and brought sand and stones to its edge, where the ice melted. Then the climate became warmer, the end of the ice-sheet melted, and retreated northward, leaving behind it great ridges of stones and boulders; these are called moraines. To-day these lines of moraines can be traced right across the German plain from east to west. These ridges dammed the river valleys that had been formed before the ice-sheet existed, and the water had to find other ways to the sea. A careful inspection of the map will show that the Elbe between Dresden and Magdeburg looks as if it were flowing straight for the mouth of the Weser; at Magdeburg its course is blocked by mounds of stones and boulders, so it has to flow northward, till after another sixty miles it has to avoid more morainic ridges by flowing in a westerly direction to the sea. Similar bends are to be noted in the Weser, which at one part of its course seems to aim at the mouth of the Ems. The river Oder apparently at one time flowed past what is now Berlin into what is now the mouth of the Elbe. The Warthe (Warta) no doubt entered the sea somewhere about the present position of Stettin. A number of towns, some of which have become very important, sprang up near these bends in the rivers. Traffic would leave a river valley at the bend, and find the easiest way to the next valley east or west. A gap in the morainic ridges became the natural focus for routes north and south. Few people will climb over a hill if they know of a gap through; in the same way pack-horses, wagons, and railways are drawn to the easy routes, and so these gaps become important places.

Prussia. Prussia stretches from Holland in the west to Poland in the east. Its southern half includes the provinces of the Rhineland, Westphalia, Thuringia, and Silesia. The northern half, between latitude 52° N. and the Baltic, has a small population, because it is without mineral wealth and its soil is poor. Even with great skill and the scientific use of manures only the hardier crops, such as rye, oats, potatoes, and hay, can be grown. In the east from December till March the ground is frozen, so that the soil cannot be worked. In the west the period of frost is two months shorter. In both east and west there are extensive areas of marsh and almost barren moor.

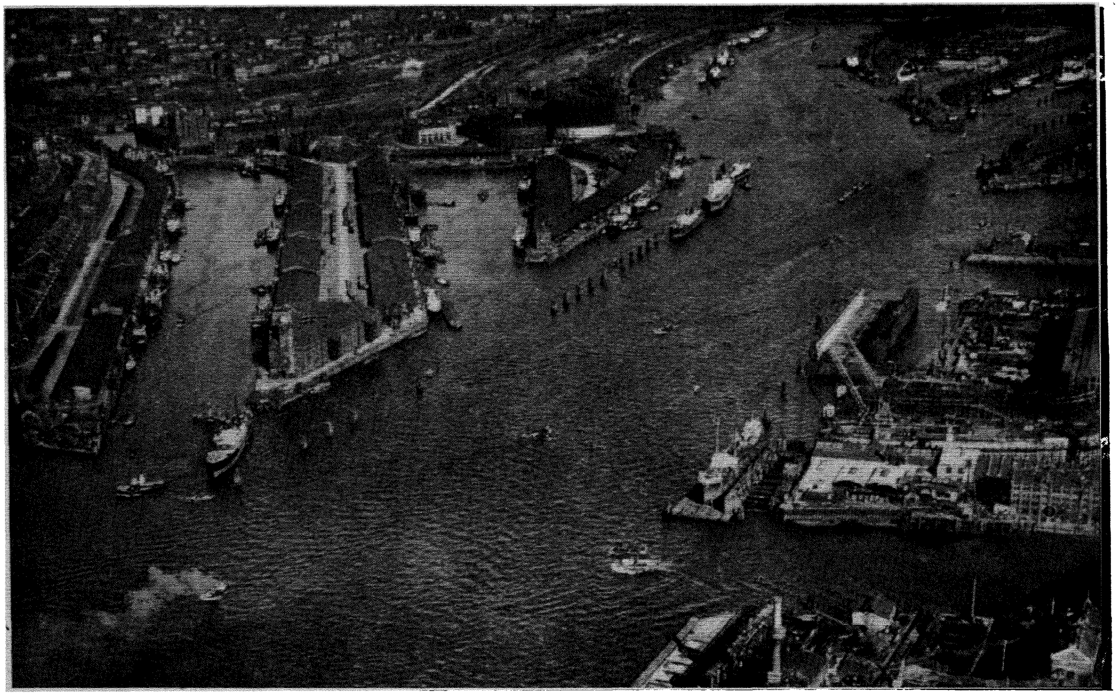


FIG. 42. AN AEROPLANE VIEW OF THE PORT OF HAMBURG

Notice the ship undergoing repairs in the floating dock in the foreground.

Aerofilms, Ltd.

The level nature of the plain leads to the formation of marshes, and the sandy, gravelly soils are too infertile to repay labour. Most of the poorer parts are planted with pines.

Many of the plantations and forests belong to the State. They are very carefully tended; the timber is cut only when mature, and young trees are planted to replace those felled. The State draws a considerable revenue from this source.

The deposits of iron ore and salt have led to industrial developments in many of the older towns, such as Chemnitz, Leipzig, Brunswick, Hanover, and Bremen. The western area is almost entirely drained by the Weser and its tributaries.

Berlin, on the river Spree, was made the headquarters of the local rulers of Brandenburg. Its position between the bends, or elbows, of the rivers Oder and Elbe is on the traffic route from one river valley to the other. The marshes of the Havel and Spree made it difficult for traffic to pass north-east and south-west. Berlin was thus on a natural cross-way. Since the development of railways it has become the centre of a web of lines radiating to other parts not only of Germany, but of Europe as well.

As the centre of government of an empire of 66,000,000 people it became the home of thousands of officials and Government servants, as well as of soldiers. As the seat of a university it attracted students from all over Germany. Thus arose the manufacture of scientific instruments and other trades, such as the making of electrical goods, requiring highly skilled workers.

The greater part of the north coast of Germany is cut off from the open sea by the peninsula of Jutland, so that ships going to the Baltic Sea from America and Western Europe have to make a six-hundred-mile journey round the peninsula. A second disadvantage from which the Baltic coast suffers is that it is frozen for a part of the year. Yet a third arises from the direction of the navigable rivers. The rivers which flow through the most thickly populated areas empty into the North Sea and not into the Baltic. These disadvantages have been increased by the building of canals joining the Elbe and the Oder, the result being that barge traffic from the south-east goes by canal and the Elbe to the North Sea instead of by the Oder to the Baltic Sea.

Hamburg, near the mouth of the Elbe, was an important port five hundred years ago. It was so important that its merchants were powerful enough to maintain the freedom of the city against the German princes and kings.

There were a number of such towns in Germany, and until the development of trade with America the first place in the league of free towns (the Hanseatic league) was held by Lübeck, on the Baltic coast. To-day the tonnage of the vessels using the port of Hamburg is greater than that of all the other seaports put together. The increase in the size of ships has led to the development of a port lower down the estuary, at Cuxhaven. The next important port—with, however, only a quarter of the business of Hamburg—is Bremen, on the Weser estuary. Bremerhaven is the port for the larger vessels.

The Kiel Canal, which has been cut right across the Jutland peninsula, has not materially affected the importance of Hamburg or of Stettin, although it is deep enough to take the largest ships. The port of Stettin, on the Oder, although nearer to Berlin, does less than a quarter of the trade of Hamburg. The river Oder, besides being a smaller river than the Elbe, flows through a less peopled country. The Elbe is large enough to enable river steamers to cross Germany and reach Czecho-Slovakia.

Silesia and East Prussia. The areas outside the main oblong are Silesia and East Prussia. They differ from the rest of Germany in having a more extreme climate. Both are essentially agricultural regions. German Silesia, especially the district immediately south of Breslau, produces large quantities of sugar-beet and some coal. In both these districts large estates are common, and a great deal of the farm-work is done by Polish and Russian labourers, especially at harvest-time. Königsberg is the port and only large town of East Prussia.

Saxony. By far the most important part of Eastern Germany is the state of Saxony. Although its area is less than one-sixteenth of that of the northern oblong, it contains about a quarter of the people. No other state in Germany is more thickly populated with people, pigs, potatoes, sugar-beet, and goats. Only Württemberg contains as many cattle or wheat-fields in proportion to its size.

Saxony is situated on the slopes which run northward from the edge of the Bohemian plateau to the plain of North Germany. The earth-movements which forced up the block of Primary rocks to form the plateau also lifted some of the newer, softer rocks on their northern edge. The wearing away of the softer rocks by the weather exposed near the surface rocks containing veins of silver and other precious metals. These attracted miners in Roman times. When these mineral resources were exhausted more attention was devoted to agriculture, and as the soils proved to be good, farming became an important occupation of the people. The fertility is due to the absence of a thick layer of glacial sand and boulders. In North Germany, near the Jutland peninsula, the glacial deposits reach a depth of about 700 feet, and the district is to-day an almost barren heath.

During what may be called the agricultural period—that is, before the extensive use of coal—the rearing of sheep on the hillsides led to the development of wool-spinning and cloth-weaving. To-day, however, there are probably fewer sheep reared in Saxony than in any other part of Germany, and yet Saxony is the leading state in Germany for the production of textiles. Two reasons explain why the textile industry has remained. The first is the discovery of beds of coal near Chemnitz, and the second is the ease with which foreign wool and cotton can be brought from Hamburg up the Elbe valley. Chemnitz, the Saxon Manchester, is also a centre for the manufacture of machinery.

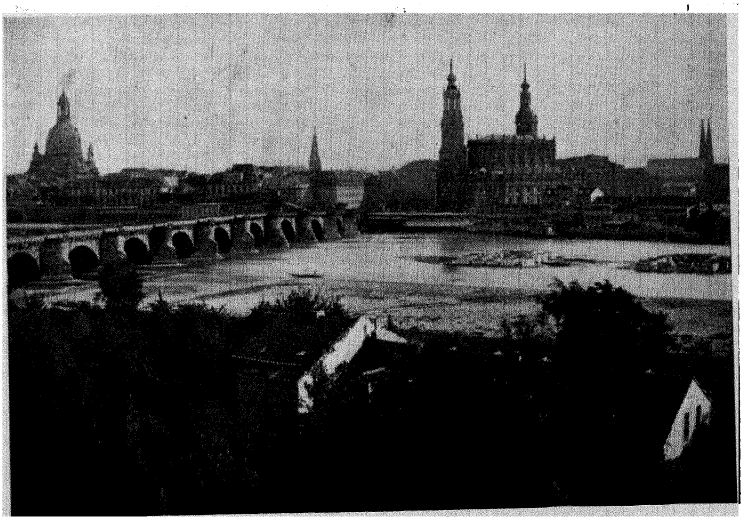


FIG. 43. DRESDEN

Dresden is one of the ancient cities of Germany. Notice the level of the water in the river, and suggest at what time in the year the photograph was taken.

Photo E.N.A.

There are two towns in Saxony which are larger than Chemnitz. These are Leipzig and Dresden. Both of them owe their importance to trading activity, for both are on important routes. Leipzig lies on a tributary of the river Elbe, and in earlier times traders passing from Southern Germany to the north-east were compelled to use this river valley in order to avoid the forests of the Thuringian heights on the one hand and those of the Hartz Mountains on the other. It was the home of one of the earliest universities, and has become a very important book-making centre. Pianos are also made there. Dresden, which was made the headquarters of the kings of Saxony hundreds of years ago, is on the Elbe, just where the river leaves the narrow valley that it has cut through the edge of the plateau. It is on the main route into Bohemia. A good deal of artistic pottery (which is world-famous as "Dresden ware") is made in the district.

Just outside the state of Saxony are two towns of importance which depend on Saxony for raw materials. Magdeburg is a great sugar-making centre, drawing most of its beets from Saxony. Close by is Stassfurt, a small town that has more chemical works in a single area than any other place in the world. There are important mines of sodium and potassium salts in the district, and coal is obtained from the Saxon coalfield. The underlying bed of rock-salt is nearly 4000 feet thick. The potassium salts form the top layer, and are important because in no other part of the world is there a similar supply of equal purity. Both salt and sugar are exported from the district to other parts of the world.

Westphalia. After the Rhine has left the highlands of South Germany it passes through a level stretch of plain before it crosses the Dutch frontier and divides into the numerous channels which form its delta. The country on the right bank is drained by two tributaries, the Lippe and the Ruhr. In a narrow strip of country twenty miles wide, stretching from the Rhine along its tributary the Ruhr for about forty miles, there are the mines from which three-quarters of the whole supply of German coal is obtained.

Here most of the iron is smelted and the steel made, and here most of the heavy iron goods are manufactured. In Rhineland, bordering this area, is a group of towns which contain numerous textile factories where the spinning and weaving of cotton, wool, and silk is carried on.

It is somewhat as if the whole of the works, factories, and mines of Yorkshire, Lancashire, and North-east England were crowded into a 50-mile square; the establishments in this district are not so many in number, but they form the most important industrial concentration on the continent of Europe.

The coal-mines are mostly round the town of Dortmund. The coal that is intended for export or for South Germany is shipped from the Rhine port of Duisburg. At Essen the coal is used in the manufacture of steel and iron goods. At other towns it is used for providing steam and electric power to drive the machinery in the mills and factories. Barmen and Elberfeld contain most of the cotton mills, and Krefeld is the chief centre for the manufacture of silks and velvets. Aachen is the chief centre of the woollen trade. Düsseldorf's works produce machines of all kinds, as well as locomotives and railway rolling-stock. These are all large towns, several with a population of over a quarter of a million. Solingen is smaller, but it is the chief cutlery-making town, with more than three hundred factories engaged in the trade.

Köln, or Cologne, was an important place centuries before the Ruhr towns existed as towns. Originally it was a Roman camp commanding the routes up the Rhine and into Gaul—*i.e.*, the basin of the Seine. Later, as the highest point on the Rhine which sea-going vessels could conveniently reach, it developed a sea-borne trade, especially with London. To-day it is a port which is engaged largely in supplying food and raw materials for the millions of workers in the towns of Westphalia and Rhineland. There are 6 miles of docks for small craft along the river. Köln is used by coasting vessels and vessels taking foreign produce that has been landed from ocean-going ships at the British ports. Its special product is eau de cologne, but iron goods, various cloth fabrics, pianos, and other things are made in the town. It has grown to be the third largest town of Germany.

PROBLEMS

1. From the table below it can be seen that the farmers in Germany, Poland, Russia, and Denmark raise different weights of crops from equal areas of ground. The differences may be due to richer or poorer soil, to the weather, to the method of farming, or to the intelligence or education of the farmer. From what you have read or have inferred from looking at an atlas suggest reasons for each of the differences.

AVERAGE NUMBER OF TONS PRODUCED FROM EACH ACRE

COUNTRY	CROP					
	Wheat	Barley	Rye	Oats	Potatoes	Sugar-beet
Germany	·80	·70	·73	·65	6·2	10·5
Poland .	·60	·55	·50	·52	5·2	8·7
Russia .	·32	·38	·29	·34	—	—
Denmark	1·1	1·0	·67	·80	6·0	—

2. By going through the Kiel Canal ships journeying from Hamburg, London, and Hartlepool to Bornholm shorten their passage by the following number of miles and hours:

TO BORNHOLM	MILES	HOURS FOR 1000-TON SHIP	HOURS FOR 400-TON SHIP
From Hamburg .	360	24	46
From London .	190	9	22
From Hartlepool.	90	0	7

Suggest as many reasons as possible to explain why only 6 per cent. of the vessels using the canal are over 1000 tons and 68 per cent. are under 400 tons.

3. Notice the changes in the volume of production represented by the following figures. What types of industry and occupation are likely to be affected by these changes? Consider the raw materials used in the manufacture of each commodity. Are these raw materials all produced in the country?

Year	Production of Beer, in Millions of Hectolitres	Year	Production of Artificial Silk, in Millions of Kilos
1929	58	1932	29
1930	48	1933	34
1931	37	1934	41
1932	33		

4. Measure the distance on the map from Hamburg to Breslau *via* the canal that runs through Berlin from the Elbe to the Oder. Compare the length of this route with two alternative routes by water. What saving is there in distance?

5. The approximate proportions of German imports are:

Food	25 per cent.
Raw materials	50 per cent.

Those for the United Kingdom are:

Food	47 per cent.
Raw materials	15 per cent.

How may these differences be accounted for?

6. In East Prussia the January and July average temperatures are 28° F. and 63° F. respectively. Spring starts in mid-May. In the lowlands near Mannheim the corresponding temperatures are 33° and 66°. Spring starts a month earlier. Account for these differences, and show how they influence the crops produced in East and South Germany.

7. In 1911 nearly 31 million tons of shipping passed up and down the Rhine across the Dutch frontier, while nearly 11 million tons passed up and down the Elbe beyond Hamburg. How would you account for the difference in the volume of traffic? (This difference exists in spite of the fact that 400-ton barges can go only as far as Strasbourg on the Rhine, while such vessels on the Elbe can reach Praha, Breslau, Berlin, and Stettin.) Compare the length of navigable waterways in connexion with the Rhine and Elbe respectively.

8. In 1933 the German fishermen brought in 350 million kilos of fish from the North Sea and 35 million kilos from the Baltic. Write down all the possible reasons for this difference.

9. The coal output of the following four states in 1933 was as shown in the following table:

STATE	COAL, IN MILLIONS OF TONS	LIGNITE, IN TONS
Prussia . . .	139	123
Saxony . . .	3	11
Hesse . . .	1	—
Bavaria . .	1½	—

Suggest why the bulk of coal should come from Prussia (Ruhr), and also for what purposes the coal of other areas would probably be used.

10. Study the following table:

PORT	VESSELS	TONNAGE
Hamburg and Altona . .	16,500	18 millions
Bremen	5,500	5 ,,
Bremerhaven	1,000	3 ,,
Stettin.	4,000	2 ,,
Emden	2,500	2 ,,
Lübeck	3,500	½ ,,

Calculate the average size of ship using these ports in 1933, and suggest reasons for any differences you notice.

CHAPTER XIX

THE LAND OF THE BELGIANS

THIS small country, with one of the smallest populations in Europe, possessing less than 50 miles of sea-coast, and with only one overseas possession and a merchant fleet of only a hundred and twenty steamers, nevertheless includes within its frontiers one of the largest ports of the whole world.

Of the working population only one-sixth is engaged in agriculture, and although these farmers raise the heaviest crops in Europe they cannot possibly feed the remainder of the population. The soil is not naturally fertile. In the north-west it is sandy, and more sand tends to be blown inland from the coast. In the north-east it is gravelly, and contains many boulders deposited at the edge of the ice-sheet that once extended thus far. This part of the country contains many almost barren heaths and moors. The extreme southern quarter of the country is an upland formed of a hard mass of ancient rocks that produce an infertile soil. Here the country is mostly covered with forests, excepting in the river valleys.

As a result of the farmers' continued hard work, manuring, and draining all but the extreme east and south of the country now produces heavy crops of wheat, oats, rye, beet, and potatoes. The farms as a rule are small—often not more than 5 acres in extent. The crops are frequently arranged in strips across the field. Little land is wasted by hedges, and the ditches which separate the fields are usually cut very deep in order to drain the land the more thoroughly. Great care is taken to keep the channels clear and the banks in good condition.

The farmhouse and buildings are small. The former is, in the west, a whitewashed, one-storey building with thatched or red-tiled roof. The outbuildings are made of rough wooden frames plastered with mud, which dries fairly rapidly in the summer; the roofs are thatched. The peasant farmers are not wealthy, so that everything must be done cheaply. Not every farmer can afford to keep a horse, but most of them have a cow, and some pigs and chickens. The country is practically self-supporting in regard to beef and pork, and actually exported in 1934 200,000,000 eggs.

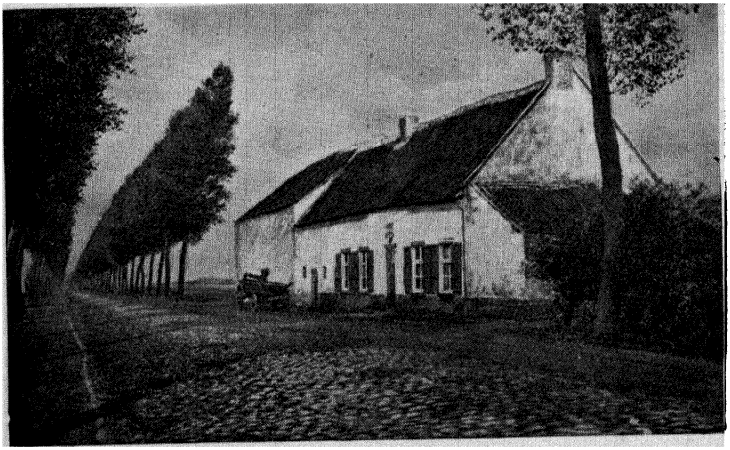


FIG. 44. WATERLOO

This is a main road typical of Belgium and North-east France. Notice the cobbled central strip of roadway flanked by strips of grass. In some parts the poplar-trees are replaced by cider-apple trees.

Photo E.N.A.

In Belgium the summers are slightly warmer and the winters rather colder than in South-east England. The total amount of rain is about the same, though dampness and mist are common over the lowland. This dampness suits flax, and a considerable area is devoted to this crop. Otherwise the crops grown are those of Eastern England, except in the districts where the soil is too poor and rye takes the place of wheat.

Even the sandy soils have a layer of clay beneath which prevents the rainwater from soaking through. This makes deep ditches and canals necessary for the drainage of the land. Many of the roads are paved with stone blocks and lined with tall poplar-trees. These trees have several uses. They hold the loose, soft earth together with their roots, break the force of the winds that sweep across these open plain lands, but do not give so much shade as to prevent the sun from drying the soil and ripening the crops. The more spreading types of trees have their branches cut nearly every year, so that they look like rough poles with a big bunch of leaves on top.

The canals not only drain the land, but are used by barges. Practically all the towns of importance are on canals or rivers. Another use to which canals are put is the retting of flax. A kind of three-sided box is placed in the river and gradually filled with bundles of flax. As its load gets heavier the box sinks, and great stones are placed on top to ensure its remaining under water. The softer parts of the flax-stalks rot away, and then in time the remaining fibres are cleaned and dried. The river Lys is the most important river used for retting. Several towns near it have factories where the fibres are made into linen thread and cloth.

Flemish weavers of linen and wool were famous in Europe before the fifteenth century. Flemish merchants became rich and powerful. They bought wool from other countries, and sold cloth to the merchants of other nations. In those days Bruges was the busy port of this country. The wealth of the Flemish townsfolk made their land a much-desired prize over which dukes and kings fought. The business of the country suffered in consequence, Flemish weavers fled to England and Holland, and traders used other ports. Belgium for several hundred years ceased to count as a commercial or industrial country.

It is less than a century since the Dutch right to levy a toll on all boats using the Schelde was bought out and the ships of all nations were free to use the port of Antwerp.

In this short time Antwerp has risen from insignificance to front rank. This sudden advancement in importance is largely accounted for by the convenience of its situation and the depth of the river Schelde. Most of the world's trade is carried by sea between industrial Europe and the Americas, which supply food and raw materials, or between Europe and Southern Asia, from which raw materials are obtained and to which manufactured goods

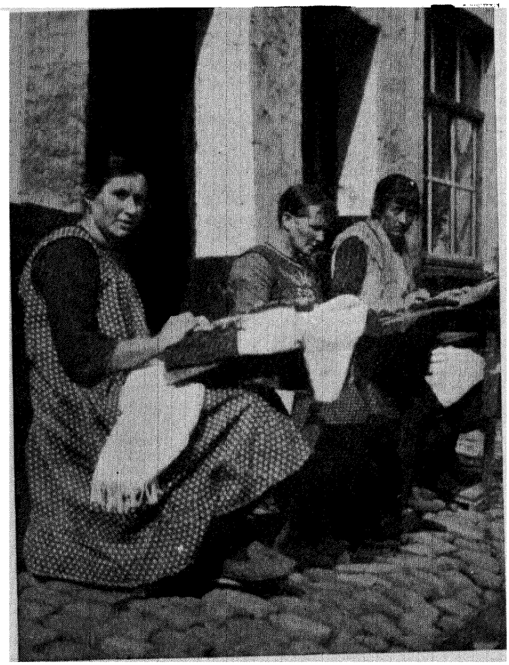


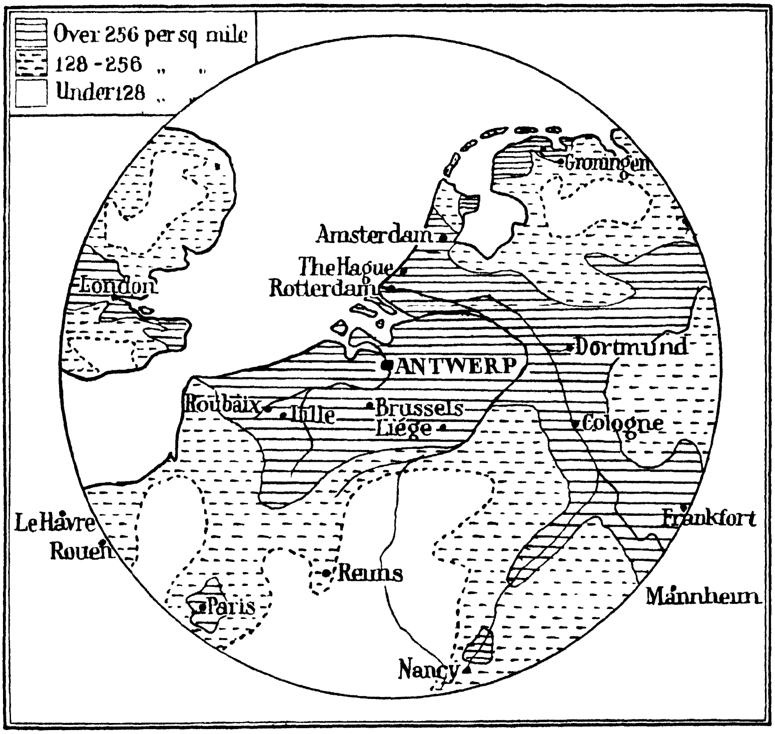
FIG. 45. FLEMISH LACE-MAKERS IN BRUGES

Cobblestone roadways and felt slippers are common to Belgium and Northern France. The slippered feet are pushed into wooden shoes (sabots) for walking in the road.

By courtesy of the Belgian Legation

are sent. Most of the industrial part of continental Europe lies within two hundred miles of Antwerp.

Boats whose whole cargo is destined for France, Germany, Holland, or Belgium naturally use a port in the country for which the cargo is intended. Boats whose cargoes have to be divided among several countries naturally choose a port conveniently situated for distributing the goods. The position of Antwerp has led to its becoming a distributing centre. Besides this, however, it owes a considerable part of its rapid development to its position as the outlet for the manufactured goods produced in Belgium—mostly in the towns of the Meuse valley.



The level nature of the country has made it easy to connect Antwerp by canal with the Seine and its tributaries, the Rhine and its tributaries, and, through the Meuse, to the Saône and the Rhône. These inland waterways facilitate the transport of heavy and bulky material.

Commerce and transport together employ the activities of one-sixth of the Belgian workers, but half of the whole population is engaged in mining and manufacturing. The industrial prosperity of the country originally depended on the bed of coal that came near to the surface along the northern edge of the Ardennes, in the valleys of the Meuse and the Sambre. The output of coal suited to industrial purposes has been diminishing, though the demand for it has increased. The difficulty has been overcome in two ways—first, by importing suitable coal from Germany and Britain; secondly, by trying to dig down to the deeper coal in other parts. Coal has been discovered and is now being worked in the eastern province of Limburg.

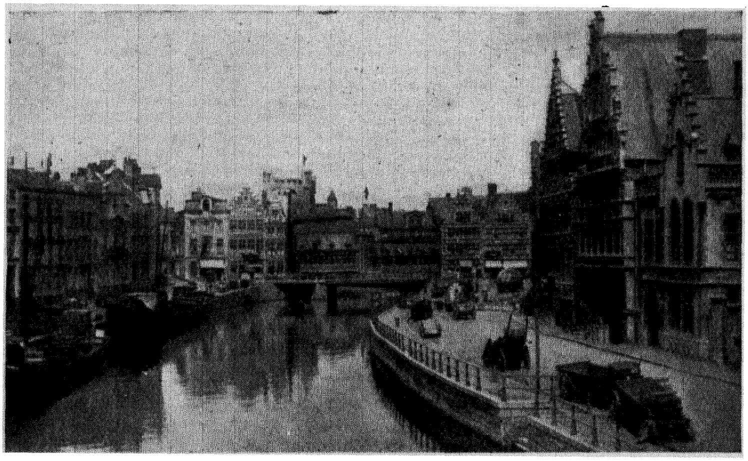


FIG. 46. A QUAY AT GHENT

Many of the buildings with ornamented fronts were built by Flemish merchants in the days when sea-borne transport was by means of small sailing vessels.

By courtesy of the Belgian Legation

The coal is used for smelting the ores of iron, zinc, and lead; for making steel, glass, and machinery; for driving the machinery in the textile mills and the sugar factories; also for producing electricity, which is now available for small factories and for agricultural purposes in half the communes in the country.

The smelting of ores is carried out in many small towns along the Meuse valley. The most important steel and engineering works are round Liége, as are also the chief glass works. Besides having coal, iron ore, and sand in the immediate neighbourhood, Liége is very conveniently situated for obtaining coal from the Ruhr and iron ore from Lorraine. A new deep-water canal has recently been constructed in a direct line from Liége to Antwerp. Liége is now one of the four large towns of Belgium.

The distribution of electricity over the countryside will check the growth of large towns. Many small works, especially factories connected with the textile trade, are springing up in the country. The chief centre for the woollen manufacture is Verviers, a small town in the south-east, near the German frontier. Linen and cotton goods are made in the Lys valley, but chiefly at Ghent. Linen was made in this district hundreds of years ago, but since the country cannot supply its own needs in regard to flax other towns which can readily obtain fibre from abroad have developed rapidly. Cotton, which also comes from abroad, tends to be manufactured in that part of the linen area which is most easily accessible from the sea.

Sea-going ships can reach Ghent from the Schelde and by the canal which connects the town directly with the sea at Terneuzen, in Holland. Standing at the junction of the Lys, the Schelde, and this canal, Ghent is the second port of Belgium, but it has only one-twelfth of the shipping of Antwerp.

Brussels is situated practically at the centre of this Belgian hive of industry. No important town in the country is more than a day's cycle-ride away, or three hours by train. The town is the railway-centre for the whole country. The ease with which Brussels can be reached from all parts has meant that more and more of the business transactions take place there. The Government headquarters are also in this town, so that its 900,000 inhabitants include many office workers, civil servants, and their families.

PROBLEMS

1. On a rough sketch map draw a circle, with centre at Antwerp, whose radius represents 250 miles. Mark in all the large towns both in the British Isles and on the Continent that fall within this circle—that is, the number of towns within a day's journey. Note any possible rival ports, and examine what advantages of position they may have.

2. In 1933 there were 230,000 horses, 1,800,000 horned cattle, and 1,350,000 pigs in Belgium. How would you account for the small number of horses and for the fact that the number of sheep was not worth recording? What are the pigs probably fed on?

3. Suggest why (*a*) foodstuffs, (*b*) raw materials, and (*c*) manufactured goods are both imported and exported. The values of these products are given below.

Imports		Exports	
Foodstuffs .	2·9 million francs	Foodstuffs .	0·8 million francs
Raw materials	6·9 ,, ,,	Raw materials	5·3 ,, ,,
Manufactures	3·9 ,, ,,	Manufactures	7·4 ,, ,,

4. The approximate number of inland waterway craft from the countries named calling at Antwerp in 1934 was as follows:

Belgium . .	58,000	France . . .	1,500
Germany . .	6,000	Alsace . . .	1,500
Holland . .	5,500	Switzerland . .	350

What proportion of these vessels probably travel on the Rhine, and what proportion probably come *via* the Meuse? How many such boats arrive each day?

5. Luxemburg has united with Belgium in the imposition and collection of Customs dues. Of what advantage is this to the countries concerned? Base your answer on the two following statements:

(*a*) The population of Luxemburg is about 300,000, of whom one-third are engaged in agriculture, oats and potatoes being the chief crops (1933).

(*b*) The production of iron and steel is equal to half that of Belgium.

CHAPTER XX

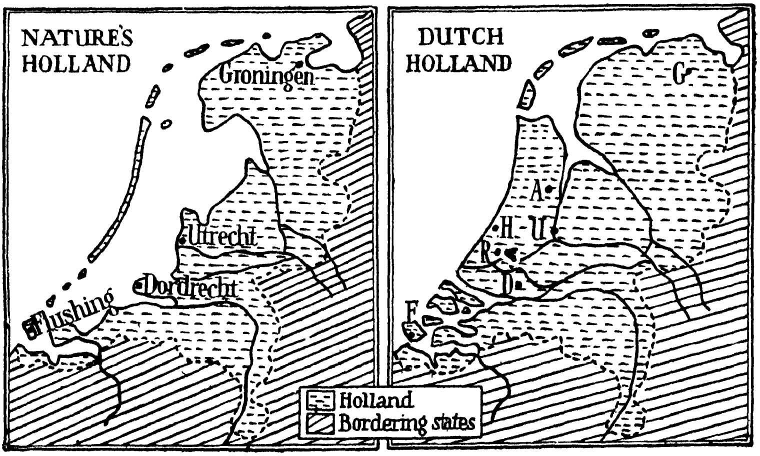
THE LAND OF THE DUTCH

THE name "Nederland" which appears on the Dutch postage stamps means "Lower Land." The old English word "nether" means "lower." Sometimes the country is called the Netherlands. Holland, to give the country its other name, consists of two parts, the low land and the lower land. The low land is largely composed of the clay, sands, and gravel deposited at the edge of the great ice-sheet. The lower land, which is also the richest, has been formed by the sand and mud brought down by the three rivers Rhine, Maas (or Meuse), and Schelde. The basins of these three rivers include areas formed from many different kinds of rocks, so that the sediment is of a very mixed composition.

As each river approaches the sea the swiftness of the current gradually diminishes. The slower the stream the less the mud that can be carried along. This means that the mud is deposited on the river-bed. As the floor of the bed is built up there is grave danger that the river will overflow its channel and flood the surrounding country. In order to avoid this banks are built up on both sides, and in the course of time the river is raised above the level of the surrounding country. To check this the rivers are also dredged—that is, the mud is scooped up from the bottom and carried away.

A great deal of the mud poured by the river into the sea is washed back again by the wind and waves. Great mounds of sand, or dunes, often several hundred feet high, are built up at the edge of the sea. The mouths of the smaller streams are filled up, and lakes and marshes are formed by the water that cannot reach the sea. An unusually severe storm may cause the sea to break through the sand-dunes and turn the lake or marsh into a shallow bay, until more sand-hills are formed. Grasses are planted on the dunes to prevent loose sand from blowing inland and smothering the crops and pastures.

The great task of the Dutch people is to keep their land from being flooded from the back by the rivers and flooded from the front by the sea. In this they have been fairly successful, though at times the sea has broken through. The Zuider Zee was formed in this way between six and seven hundred years ago. The people are continually attempting to increase the size of the country by enclosing stretches of shallow water within earth banks and pumping the water out of the enclosed areas into specially constructed channels.



An earth wall can be considerably strengthened by the addition of heavy timber and great stones. Unfortunately, both stone and timber are very scarce in Holland, and for the larger works of enclosure timber and stone have to be imported from Norway and Sweden. The low level of the land allows the winds to sweep across the country without interruption. These winds are harnessed for driving the pumps. In bygone days an unusually calm spell of weather meant that pumping ceased and the water-level rose. This caused considerable damage to the crops in the lowest fields. To-day steam and petrol pumps are used to supplement the wind-pumps in calm weather.

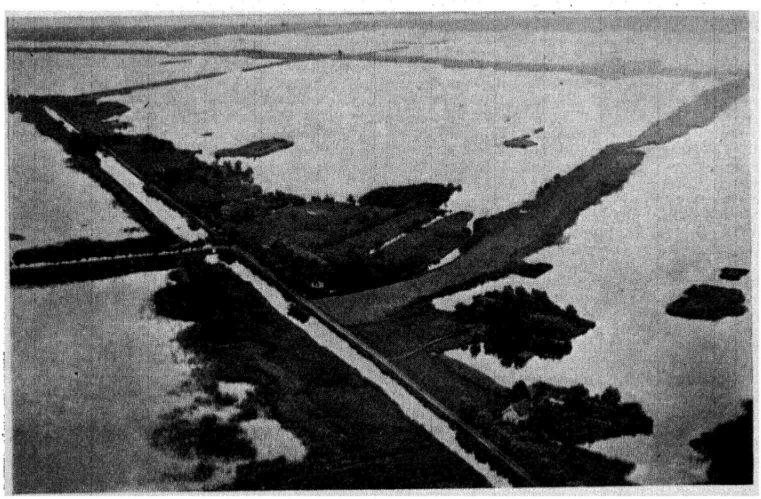


FIG. 47. POLDERS

The enclosed water areas will soon be pumped dry and replaced by fields. The pumped water flows away along the canal which crosses the picture diagonally.

Aerofilms, Ltd.

About a third of the country has been reclaimed from below sea-level. Work on the Zuider Zee may in about twenty years' time have diminished its area to one-half. In this way the Dutch are adding to their country.

Flax is a very useful crop, because it can be grown on the newly reclaimed salty land. After three years other crops will grow, and in ten years the choice of crop is limited only by the climate. The winters are sufficiently cold for the canals and rivers to be frozen over for more than a month. The summers are about as warm as in

Southern Britain. On the whole, the rainfall is rather less than in Britain, though mists and fogs are much more common. Visitors with a keen sense of smell maintain that an oozy, muddy odour always pervades the air even on the brightest days.

Holland supplies many of the great towns of Europe with early tomatoes in spring and flowers in winter. This is done by keeping the plants in large greenhouses and supplying artificial heat. Around Haarlem a number of people are engaged in growing bulbs and blooms for export. Onions are also grown in large quantities.

The great majority of Dutch farmers keep dairy cattle, much of whose milk is condensed or made into cheese. They also rear animals for meat, and grow root-crops, lucerne, and hay to feed the animals. Wheat and rye are grown for human consumption, but the total crop is not nearly enough to meet the requirements of the population. Even the forage crop has to be supplemented by imports of food for the animals, although great numbers of these are killed when very young.

In the country districts of Holland nearly every one rides a bicycle. The roads are level, and the large number of canals and water-channels prevents short cuts across country. By far the larger part of the produce is transported by water. Instead of driving a wagonload of hay the farmer steers a loaded barge; instead of taking his vegetables and cheeses to market by horse and cart, he puts them into a small boat and rows them to the nearest market-town. Even in the larger towns many of the roads run alongside the canals. It is said that in Amsterdam there are three hundred and fifty bridges to allow traffic to cross the canals.

The farm-buildings are usually of wood or brick. Wood is used because it is light in weight. Even the brick buildings are supported on wooden piles driven into the soft, damp earth. Practically all the houses are roofed with red tiles. The abundant clay provides the cheapest material for building in a land which is short of both wood and stone. Trees are grown to give a certain amount of shelter and to hold the soil alongside the water-channels. They are usually willows and poplars, and are kept small by pruning; otherwise the high winds would root them out of the rather loose soil.

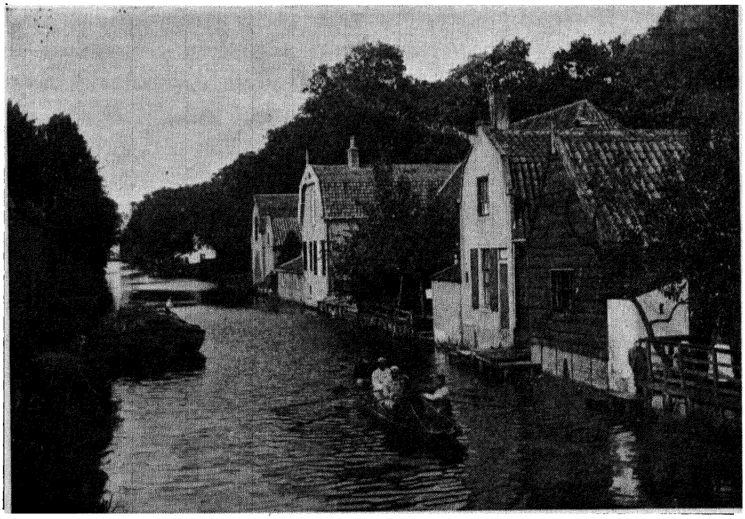


FIG. 48. A CANAL NEAR HILVERSUM

Transport goes by barge and rowing-boat.

By courtesy of "The Netherlands Abroad" Association

Most of the cattle and all the sheep are kept on land which is not polder land. Sheep thrive better on drier land, and crops are more profitable on the polders. Therefore the north-east of the country is more particularly a dairy country and the south-east a sheep country, while the sandy soils just inland from the dunes are suited to market-gardening and bulb culture. The famous black and white Frisian cattle are from the north-east. The prosperity which has followed specialization in dairy products and the spread of co-operative enterprise has led to a remarkable growth in the population. In recent years Groningen, an agricultural centre, has grown to be one of the largest towns in the state.

The great centres of population in the Netherlands, however, do not depend on agricultural nor yet on industrial development. Coal has been discovered and mined in the country only in recent years. The mines are in the southern province of Limburg, near the German frontier; unfortunately, this is the least accessible part of the country, being less than 40 miles from Cologne, but more than one hundred from Amsterdam.

Both Amsterdam and Rotterdam have populations of over half a million, their welfare to a great extent depending on the foreign trade of the country. There are two reasons for this. First, their situation allows them to compete with Antwerp as convenient ports for the dense population in the Rhine and Ruhr valleys. Secondly, the Dutch have long looked to the sea as a means of earning a living, either as fishermen or as sailors. They once had colonies where Cape Town and New York now stand. They still control, and have very effectively developed, some of the islands of the East Indies, the island of Java in particular. The demand of the people in Europe for pepper, quinine, rubber, coconuts, and other crops of the Dutch East Indies has always been important in stimulating the trade of the Dutch ports. About a third of the world's supply of rubber and coconut, nine-tenths of the chinchona (or quinine), and seven-tenths of the pepper come from the Dutch East Indies.

Rotterdam, if one includes the other small ports on the New Waterway, a channel which has been dredged from a distributary of the Rhine to the coast of the North Sea, is probably used by a greater shipping tonnage than Antwerp. The amount of business done is restricted by the difficulty in maintaining a depth of water sufficient for the largest ships. Many goods are brought to Holland for distribution to Germany and other countries, but these other countries send goods for export through their own ports. Thus many ships leave Dutch ports in ballast, as no cargoes from industrial centres such as exist in Belgium require shipment to other parts of the world.

Amsterdam, although a great business centre, has only a fifth of the shipping of Rotterdam. Part of the population is dependent on the diamond industry. The rough stones are imported, and the work of cutting and polishing is carried on in the town. The competition with the diamond firms in Antwerp is very keen. It was in order to avoid Spanish oppression that diamond-workers originally left Antwerp and settled in Amsterdam.

The Hague is now the third largest town in the country. It has neither important industries nor is it a port. It has been described as a town of civil servants. The Netherlands Parliament and Government offices are in the town, and the International Court of Justice has found a home there. The amenities of the town have also attracted many pensioned Government servants and employees of large corporations who have spent their working life in the Dutch colonies in the East and West Indies.

PROBLEMS

1. In 1933 Dutch exports to Great Britain included the following (in millions of pounds):

Milk, butter, and cheese . . .	£2·8
Bacon	£2·7
Tomatoes and onions . . .	£·9

What two types of land cultivation are suggested by these figures? What natural advantages does the country offer for these types of occupation?

2. The rural population of Holland in 1933 was 4 millions out of a total population of 8·3 millions. On what do the remainder depend for a living, and where do they mostly live?

3. The following tables give (*a*) particulars of the merchant fleets of Holland and Belgium, and (*b*) the shipping using the three ports mentioned.

(*a*)

COUNTRY	VESSELS	TONNAGE
Holland	1,400	2,600,000
Belgium	120	270,000

(*b*) Antwerp	12,000 vessels
Rotterdam	7,800 ,,
Amsterdam	2,800 ,,

Suggest why Holland has a large merchant fleet, whereas Belgium has not. Also suggest how it comes about that shipping using the port of Antwerp should be greater than that of Rotterdam and Amsterdam combined.

4. The trade of Holland for 1934 is given in the figures below.

IMPORTS FROM	PROPORTION	EXPORTS TO	PROPORTION
Germany	29 per cent.	Germany	25 per cent.
Great Britain	9 ,, ,,	Great Britain	19 ,, ,,
Belgium	10 ,, ,,	Belgium	11 ,, ,,

Suggest why (*a*) Germany heads both lists; (*b*) exports to Great Britain are more valuable than the imports therefrom; and (*c*) any appreciable trade should take place between Holland and Belgium.

Consider the position of each country, the chief occupations of the people, and the possible needs which cannot be satisfied from the home productions.

5. The value of the imports for home consumption exceeded the value of the exports of home produce in recent years by the following amounts (in millions of guilders):

1929	763	1932	453
1930	700	1933	483
1931	581	1934	326

What is the source of wealth, or the services rendered, to meet this regular deficit? Suggest reasons to account for the almost steady decline of this excess.

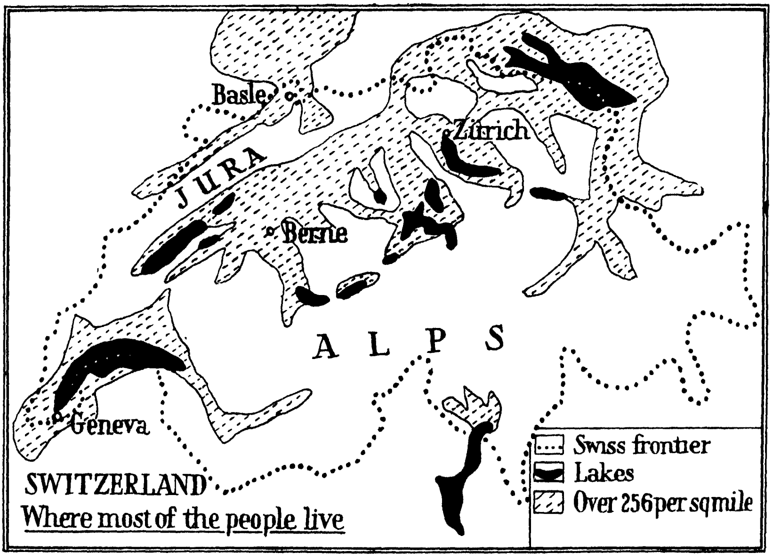
CHAPTER XXI

THE LAND OF THE SWISS

THE Swiss people were originally independent groups of people living in the Alpine valleys. In order to maintain their independence when threatened by the more numerous and powerful peoples inhabiting the surrounding plains they combined together. This combination has gradually become closer, until to-day these groups form one highly organized state, though they speak three different languages. The people living on the Italian border speak Italian, those on the French border French, while the majority speak German.

The greater part of Switzerland is mountainous, but there are some comparatively level but not low-lying regions. The Alps, which cover the southern half of the country, are a region of lofty mountains and high, isolated valleys. They are part of the same crumplings of the earth's crust as form the Pyrenees. To the north-west is an elevated plain, a land of low hills and wide valleys. It is here that most of the Swiss live, and from here it is easy to pass into France or Germany. Farther to the north-west, and partly within France, lie the low folds of the Jura Mountains, which were ridged up at the same time as the Alps.

At the time when Europe was going through the period of extreme cold the Alps and the surrounding valleys were covered with great glaciers. Visitors go to see the shrunken remains of these to-day, as they appear in the highest valleys. The great glaciers wore down the surface rocks and exposed ancient granites and schists similar to the ancient rocks of Scotland and Scandinavia. The rocks, boulders, sand, and mud formed during this period of erosion were deposited in the main valley of Switzerland, forming hillocks, and blocking the older valleys so that streams had their courses altered and lakes were formed behind the heaps or moraines. The rivers themselves are still steadily bringing down sand and mud to the main valley and gradually filling up the lakes.



The only really fertile portions of Switzerland are the valley floors that have been covered with alluvium. These are the only parts which lend themselves to cultivation. The steeper slopes of the mountains might reward the labour of terracing, but most of the higher ground has a northerly aspect, and the whole area is so high that grass and trees are all that can be profitably grown. The exception to this is the southern Italian slope of the Alps, where such plants as the vine can be grown at considerable heights in the sheltered valleys.

In an elevated and not too fertile country the people naturally make a living by caring for animals. These animals find pasture in the lower valleys in winter and on the grassy slopes above the tree-line in the summer. Rough shelters made out of loose stones, turf, and the boughs of trees serve the shepherds in the summer pastures. The winter homes need to be more substantial, since the temperatures are much lower than in Britain and in most years there is a considerable fall of snow during the autumn and winter.

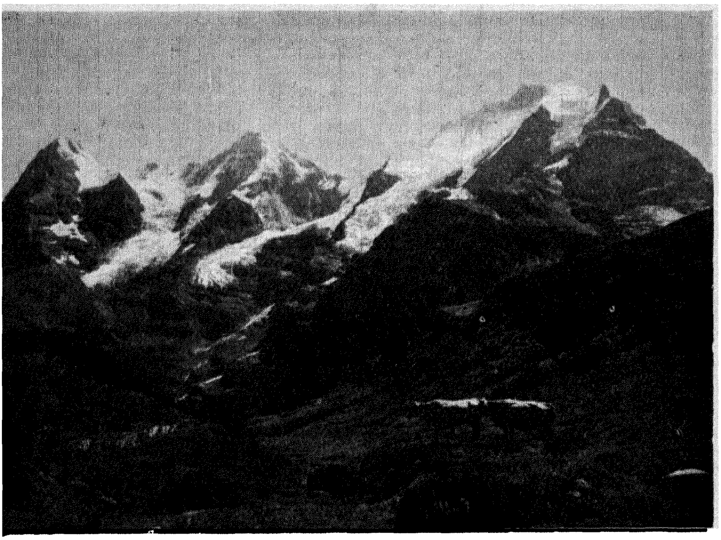


FIG. 49. THE PEAKS OF THE EIGER, THE MÖNCH, AND THE JUNGFRAU, IN THE SWISS ALPS

By courtesy of the Swiss National Tourist Office

About a fifth of the Swiss people depend on what the land will yield in order to gain a living. In the higher parts the peasant owns a few fields and has rights in the way of collecting timber from the forest and grazing animals on the summer pastures. On the ground near his home he grows potatoes, and possibly a little grain. Hay for feeding his animals in winter is his chief crop. If he had to live entirely on what he could produce his diet would consist of milk, meat, cheese, and potatoes. However, he usually takes his cheeses to market to sell, buying with the proceeds wheat or rye flour and such groceries as he can afford. Or else he makes an arrangement to sell milk regularly to a milk-condensing organization.

In the more sheltered and fertile parts, especially near to the important towns, the land is devoted to orchards and vegetable gardens. There are many more orchards than fields of grain in Switzerland. Except on the Italian side, the common fruits are the more hardy ones—apples, pears, and plums. In specially favoured situations, in spite of the elevation, it is possible to ripen apricots and peaches. The country, being much farther south than Britain, and farther inland, has a rather warmer summer, though the winter is colder and drier. The fall of snow, the dry, clear air, and the bright sunshine attract both invalids and sport-loving folks to the country in

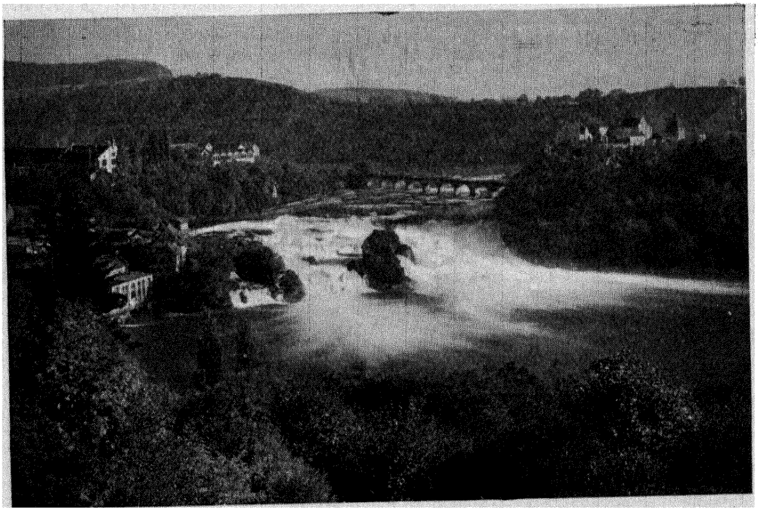


FIG. 50. THE FALLS OF SCHAFFHAUSEN, ON THE RHINE

Notice the castle on the right, in contrast to the modern power-stations on the left of the picture.

By courtesy of the Swiss National Tourist Office winter. The provision of accommodation and amusement for both summer and winter visitors employs more Swiss people than any other occupation except agriculture.

There is no coal, practically no iron, very little wool, less silk, and no flax in the country. Yet almost as many people depend on industry as on agriculture for a living. Coal, iron, and fibres have to be imported in order to make the clocks, electric machines, and silk goods which are exported in considerable quantities. Only in recent years has the water from the swiftly flowing streams and falls been harnessed to give electric power.

To-day electric power is used to drive the machinery in the silk mills, to propel trains, to smelt aluminium ores, and to produce chemicals. Arrangements are also made to 'export' electric power to neighbouring states.

Most of the industrial establishments are in the north, in a triangle the corners of which are Basle, Lucerne, and the eastern end of Lake Constance. The raw materials for the works and the food for the people come principally through the Rhine port of Basle. The railways of Switzerland are mostly engaged in conveying traffic across the country between France or Germany and Italy.

The Alps of the north are almost cut off from those of the south by the valleys of the Rhône and the Rhine. These two valleys are almost in a straight line running from the south-west to the north-east. Only by going over the St Gothard Pass or by tunnelling through the mountain could the railway avoid crossing one of these two deep valleys. Since the pass is obstructed by snow in winter, the railway engineers decided to bore a tunnel under it. An important route from France to Italy is along the Rhône valley and through the Simplon tunnel—the longest tunnel in the world—to the valley of a tributary of the river Po. A third route into Italy, which avoids Switzerland altogether, follows a tributary of the Isère to the Mont Cenis tunnel, and then works its way down toward the Northern Italian plain.

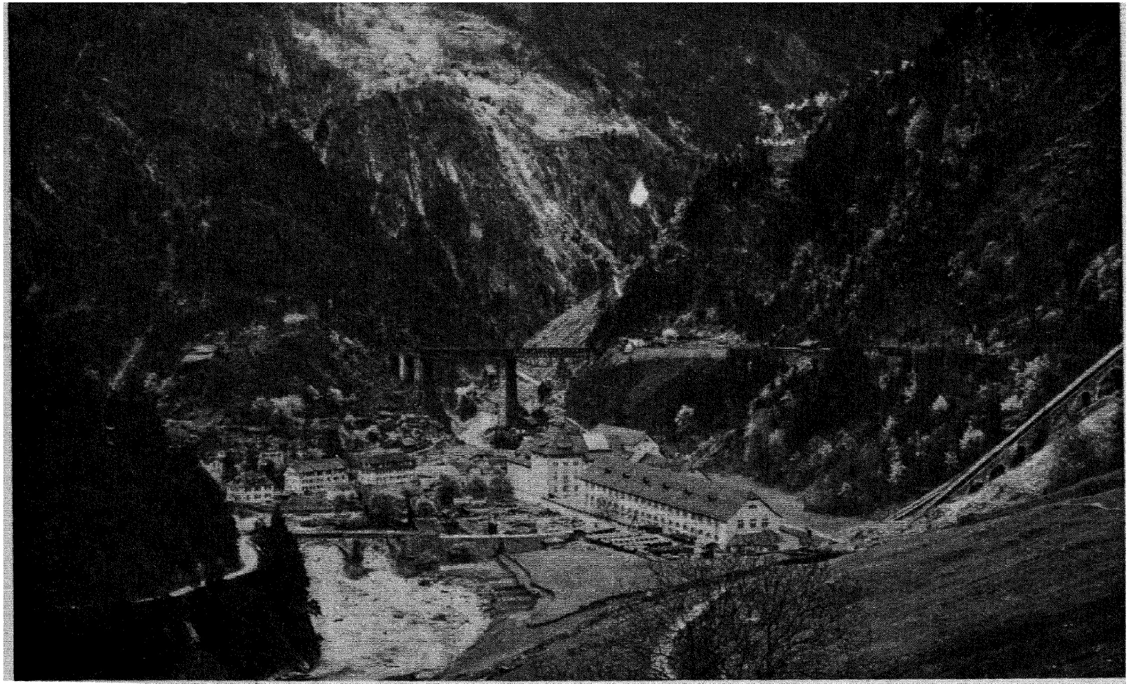


FIG. 51. AN ELECTRIC POWER-STATION AT AMSTEG

Water from a higher level comes down the pipes (on arches) to the right of the picture.

By courtesy of the Swiss National Tourist Office

Though the Swiss people number only 4 millions, the country can boast of four large towns. Zürich, the largest, has grown owing to the establishment of silk factories and machine-making works. Beyond its electric power and the skill of its workmen it has no advantages as a manufacturing centre. Berne, the centre of government, is well placed for this purpose. It is almost equidistant from the cantons of St Gall in the north-east, Geneva in the south-west, and Ticino in the south-east. Basle has grown to importance because nearly two-thirds of the import and export trade of the country passes along the Rhine, and the town is situated at the highest point which large barges can reach. Probably as many people are here engaged in the silk ribbon factories as at the docks and offices. Geneva stands at the other natural entrance to the country, close to where the Rhône leaves Lake Geneva. The Rhône, however, is not navigable here, but its valley affords a convenient route for road and railway. The town is also the headquarters of the watch and clockwork making industry, though many of the smaller towns have works where these goods are made.

Geneva has for centuries been a town of international importance. Calvin, the Protestant reformer whose religious views were adopted by many peoples in Northern Europe, made his home here. Jean-Jacques Rousseau, whose writings led people to change their form of government from monarchy to republic, and who attempted to improve the social conditions of the working people, was a native of Geneva. And, more recently still, Geneva has been chosen as the official headquarters of the League of Nations, that international organization which aims at persuading all the peoples of the world to settle their quarrels without going to war, to abolish slavery, and to save people from being forced to live and work under conditions of misery and want. Some people hope that Geneva may one day become the home of the Parliament of the peoples of the whole world.

PROBLEMS

1. Draw three rough sections across Switzerland: (*a*) passing through Geneva, Berne, and Zürich to Constance, in Germany; (*b*) from Milan (Italy), through Neuchâtel, to the French frontier; (*c*) from Basle across the country in a direct line toward Venice. In (*a*) mark in the towns and the distances between them. In (*b*) mark in the Alps, the Simplon tunnel, the Rhône valley, the lakes, and the Jura Mountains. In (*c*) mark in the Alps, the valley of the Upper Rhine, the Engadine valley, the Italian frontier, and the valley of the Adige in Italy. What is the width of the Alps along sections (*b*) and (*c*)?

2. Examine these figures relating to the shipping at Basle:

Year	Tonnage of Goods Handled		Vessels
	In	Out	
1924 . .	219,000	68,000	384
1934 . .	1,339,000	73,000	?

Why this great increase in ten years? Is it due to geographical or political reasons? Why is the tonnage of goods exported by this route not increasing at the same rate as the import tonnage? Estimate the number of vessels using the port in 1934. What would be the average number of arrivals and departures each day?

3. Of the goods arriving at Basle more than a million tons came *via* the Canal d'Alsace. Why? Consider the cost, the seasonal weather changes, and the distance.

4. From the table below calculate the percentage of railway routes electrified in each country, and account for the differences. Similarly, calculate the total railway mileage (*a*) per 100 persons, (*b*) per 100 square miles, and account for any differences.

Country	Total Mileage of Railways	Mileage of Electrified Routes	Area in Square Miles	Population in Millions
Switzerland .	3,200	1,200	16,000	4
Italy . . .	14,400	2,200	120,000	42
Belgium . .	6,400	under 100	12,000	8

5. The map at p. 199 shows a shaded area with an irregular outline. To what physical features do the 'fingers' of the outline correspond? Give the names for the five principal ones—for example, the one running south-east from Lake Geneva and the one running south from the eastern end of Lake Constance.

VII. THE MID-MEDITERRANEAN STATE

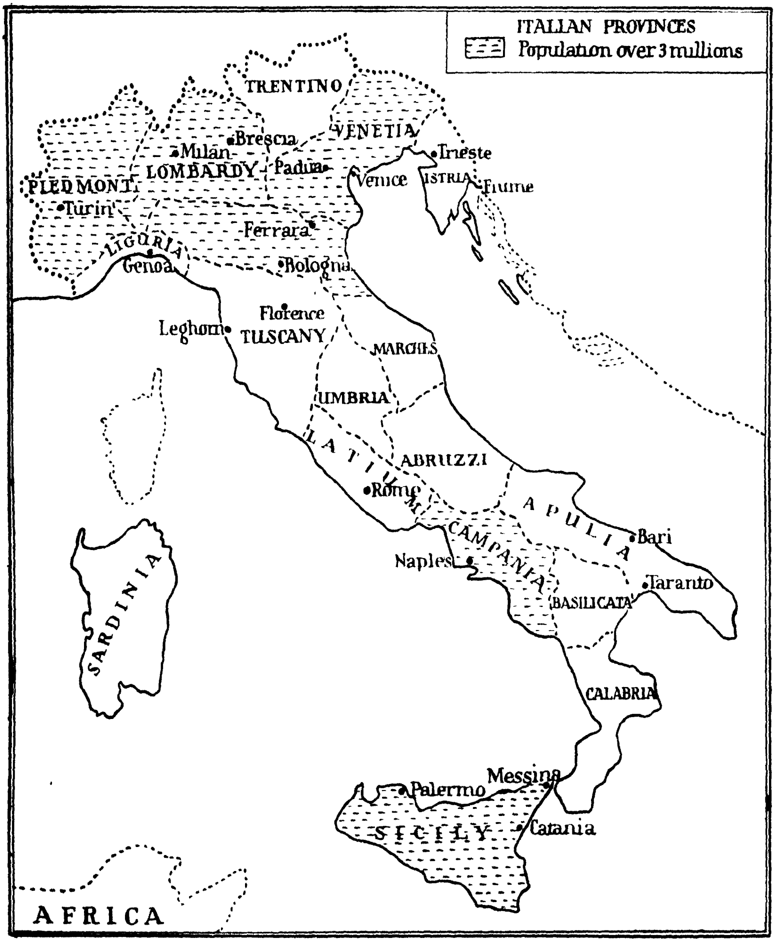
CHAPTER XXII

THE LAND OF THE ITALIANS, AND ALBANIA

On the map Italy looks like a boot-shaped peninsula thrust into the middle of the Mediterranean Sea. But if we think only of the boot, and overlook the great plain in the north and the island of Sicily which the boot is trying to kick into Africa, we are ignoring portions of the country where more than half of the Italians have their homes.

The Alps and the Apennines, around which the boot grew, were caused by the creasing up of the earth's surface. The Apennines are composed of consolidated muds, sands, and lime-containing shells, none of which are as hard as the older granites and slates. The Southern Alps are also of limestone. These softer rocks readily crumble under the influence of the weather to form soils. Thus among the Apennines, at more than 2000 feet above the sea, there are fields of brown soil or growing crops where one might expect to find barren, boulder-strewn moors.

Earth-movements still occasionally occur with violence, and cause considerable damage. Earthquakes cause houses to fall, embankments to give way, rivers to change their course, and floods to spoil the fields. To-day there are volcanic craters from Florence to Catania in Sicily, though only the southern volcanoes have been active in historical times. Vesuvius, near Naples, and Etna, between Messina and Catania in Sicily, are both active, and periodically do damage. Stromboli, in the Lipari Islands, is always in action. In spite of this ever-present danger these volcanic regions of Italy are the most densely peopled. Lava and dust from the volcanoes are, under



the influence of heat and rain, quickly turned into the very richest type of soil, which repays in abundance the labour of cultivation.

Italy is a land that is still in the process of growth. The streams flowing down from the great mountain wall in the north and the mountainous backbone of the peninsula are rapidly carrying down mud and sand and depositing them on the valley floors and building banks in the shallow water near the sea-coast. The lower parts of all the river valleys are marshy and have mud-banks which endanger shipping at low tide. One important consequence of this is that of the many busy ports of Italy none is situated at the mouth of a river. In fact, there are no towns of any size near the river-mouths.

In the course of time the streams flowing from the Alps have filled up what was once an arm of the Adriatic Sea, their deltas having joined up to form the plain of Lombardy and their streams having united in the great river Po. To-day the mouths of the rivers Po and Adige are practically united in one delta, which extends for 50 miles along the coast of the Adriatic. Towns which were 'seaside' towns in the time of the Romans are now 10 miles inland. The main stream of the Po to-day has to be held in place by great embankments as it approaches the sea, as does the Rhine on its course through Holland.

Unfortunately, the smaller plains that have been built up by the rivers flowing from the Apennines have, in the marshy parts, become the breeding-grounds for mosquitoes which spread malarial fever. Few people live in these plains, because of this disease, which is not only weakening, but often causes death. The draining of these marshes has been begun, and in some districts large areas have already been developed into valuable cultivated lands, with new farmsteads connected by good roads.

The southern slopes of the Alps are deeply cut into by numerous streams, and in the sheltered valleys of these streams many Italians win a living from the soil. The abundant moisture, the long period of mild weather in spring and autumn, and the hot summer months favour the growth of fruit-trees. The small terraced fields on the hill-slopes frequently contain or are bordered by trees, among whose branches the vines are trained. There are many orchards, where peaches and apricots, plums and almonds, are grown. Quite an appreciable amount of this fruit is exported, because it ripens a month or so earlier than in more northerly countries. Some of it is canned, and competes with American fruit in European markets.

Above the cultivated fields and orchards are woods and plantations of chestnut-trees, and higher still pastures where cattle and goats are grazed. Many of these Alpine cattle are sold to the farmers on the plains, who pasture the animals on irrigated grass fields. The grasses grow so rapidly that if the fields are not used for pasture they will give from four to nine crops of hay in one year. These Alpine cattle give more plentiful supplies of milk when brought to the plains. A great deal of cheese is made from this milk, and cheese is one of the chief articles of food among the Italians. Some of the finer cheeses are exported; of these gorgonzola is perhaps the best known.

The contrast between the agricultural methods of the farmers of the hills and those of the plains is very great. On the hill-slopes much of the work is done by hand, while in the plain, where the fields are level, steam-ploughs, motor-tractors, and mechanical harvesters similar to those in use on the American prairies are to be seen at work. Most of the milk-separating machines, the chopping machines, the threshing machines, and the butter churns are worked by electricity. Electric power is conveyed by cables from the generating stations situated in the upper valleys of the Alpine and Apennine rivers.

A considerable amount of the land near the rivers is irrigated. Not only are these irrigated fields used for providing pasture and forage for cattle, but some rice and hemp are also grown on land where the water-supply can be controlled. However, the chief crop throughout Italy is wheat. Wheat is grown on the plain, among the hills, and even in suitable places among the mountains. This wide distribution of the wheat crop is due partly to the general fertility of the soils and partly to the suitability of the weather. Throughout Italy the summers are drier than in Great Britain, and in the southern half of the country practically no rain falls during the months of June, July, and August.

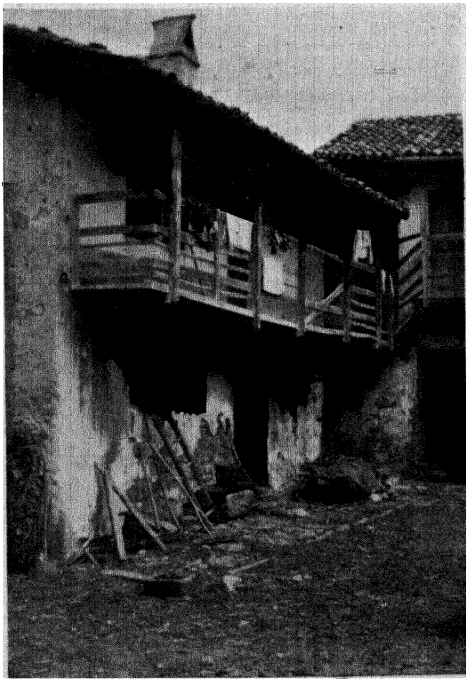


FIG. 52. AN ITALIAN **FARMHOUSE**

Notice the rough woodwork of the balcony. The veranda is to afford shade during the hot summer weather. The family lives upstairs; the animals are housed below.

By courtesy of Mrs C. A. Woodcock

The mild, moist spring and the hot summers are specially favourable to the growth and ripening of wheat and to the growth and ripening of the grape. No other country in the world gives so much ground to the growing of vines, and few countries grow so much wheat compared with other grain crops. The second important grain crop is maize, which, after being ground, is made into a kind of porridge, called *polenta,* which forms a staple food for the poorer folks. Chestnuts also are important as a food for poor people as well as for pigs. South of the plain of Lombardy frosts do not trouble the farmer. The absence of frosts allows the growing of olive-trees. These are found in all parts of the peninsula. The oil of the olive takes the place of animal fats and butter. A country where the green pastures disappear for three months in the year does not produce fat meat or abundant milk.

Most of the inland towns, both large and small, are set on hills near the river valleys. Such positions were safest in the days when the people of one valley made war on those in the next. The towns which remained were those which were reasonably safe from enemies, floods, diseases, and landslides.

It is a common practice for the shepherds to move their flocks from the highlands to the lowlands for pasture. The mild, moist winter weather causes the lowland pastures to grow freely. By June, however, the grass begins to wither, and the mosquitoes to multiply, so that it is better for man and beast to remove to the hills, where the rainfall is heavier in the summer and where the pastures are still fairly fresh. Sheep-rearing is more common in Tuscany and Apulia than in other parts.

Although most fruits can be grown all over the country, the orange, lemon, and citron, which cannot stand frosts, and the vine are most cultivated in Italy from Naples along the south-west of the peninsula and in Sicily. Large estates are common. The labourers mostly live in the towns and go to and from their work daily. The people live during the day in the open air. Their homes in town often consist of a single room, with several beds and a cooking-stove. The weather, except when the wind blows down from the mountains, is so warm that fires for heating are hardly necessary. Though the winters are about as mild as the English April or May, yet hot baked chestnuts are very popular there.

In countries where pastures are scarce the bean takes the place of meat, as in Sicily, where beans for horses and for men are extensively grown. Both in Sicily and in Southern Italy the poorness of the pastures leads the people to use donkeys and mules instead of horses for carrying their goods. The donkey can live on much poorer food than the horse; also it is better able to climb about on the rough and steep hill-tracks. Instead of loading carts with the harvested fruit or sheaves of grain the upland farmers fill the baskets which are hung one on each side of the mule or donkey. In this way fresh vegetables are brought to town. The streets of the towns are often so narrow that it would be very difficult to drive carts along them.

Goats and cows are brought round the streets to be milked for each customer. The woman who rents an upstairs room as a home often lowers her basket for it to be filled by the vendor from the larger baskets of vegetables on his donkey.

When clothes have to be washed they are taken to the courtyard, or square, where there is a supply of water from a fountain or spring. Water is not plentiful, especially during the summer-time. The women from the smaller villages usually take their washing to the streamside, where they wash and talk and joke with their neighbours. The townsfolk may be dreadfully crowded for space, the village-folk lacking in comfort and little luxuries, but few Italians live a lonely life, since even the farmers live in towns.

The extreme east of Italy, the 'heel' of Apulia, affords a striking contrast to the extreme west, the island of Sardinia. Apulia has a densely peopled lowland, carefully farmed, which produces the finest wheat and olives. The wheat is of the best quality for making the macaroni which is so popular in Italy. Sardinia is a forest-clad, mountainous country, the lowland plains of which harbour the germs of malarial fever. The forests produce considerable crops of chestnuts, and in the north cork-oak trees. The quality of the cork is poor, so that Italy imports considerable quantities from Portugal. Cork for wine bottles and for packing grapes is required in considerable quantities in a country that stores much wine and exports many ripe grapes.

Rather less than a half of the Italian people earn a living by working on the land. Most of the remainder are engaged in industry, although there is practically no coal in the country.

A great deal of the manufacturing requires not mechanical power, but skilful hands. The making of lace is the occupation of many women in towns scattered about the country. The making of images from marble, or of cheaper ones from *papier maché*, finds work for the men, who supply these for the homes, schools, and churches of Roman Catholic peoples in many countries. Beautiful vases and bowls are carved out of alabaster, a soft, marble-like stone that is found only in Tuscany. Artistic glass ware is made in some of the towns near Venice. Ornamental iron ware, such as gates for the gardens of wealthy people, are made in other parts. All these and other similar occupations are followed in the little workshops scattered among the towns and villages.

The industries which require much power obtain it either from imported coal or from electricity generated by streams which flow from the Alps or the Apennines. Thus in Milan many years ago local smiths made swords and daggers from iron which was forged with charcoal obtained from the forests then growing on the Alps near by. To-day cutlery is still made there, power and heat being obtained from electric generating stations and from imported coal. There are also great automobile works, which turn out thousands of cars every year. Silk, which is obtained from the silkworms reared on the leaves of the mulberry-trees grown in the sheltered valleys of Italy, supplies the raw material for the silk spinning and weaving mills in the town. The local silk is increased in quantity by imported raw silk, and by artificial silk, which is also made in the district.

In Turin there are many more workers who earn a living as mechanics, engineers, and smiths in great automobile works. Here, again, coal from Britain, electricity from Alpine streams, and iron ore from the island of Elba are used in the extensive works. Brescia, another town among the Alpine foot-hills, has of late years become an important cotton-weaving and chemical-manufacturing centre, using hydro-electric power. Ferrara, at the lowest point where the Po can be bridged, is a manufacturing centre for sugar, depending on beets grown in the locality.

The large inland towns without important industrial establishments are centres for different agricultural regions, and often junctions where routes over mountain passes meet routes along the foot-hills. Many of these towns were at one time little independent republics, each the governing centre for the people of a river valley. These towns became the homes of lawyers, clergy, doctors, teachers, and merchants, besides being the headquarters of the governing prince and his soldiers. To-day the courts, the cathedrals, schools of medicine, the universities, and the Government offices remain in these towns. Padua, Bologna, Florence, Rome, and Naples are all alike in this respect. Rome is the headquarters of the government of Italy and of the government of the Roman Catholic Church. It is situated on hills near the Tiber, and at first was the ruling centre for its own valley only. Later its citizens gained command over the pass in the Apennines that leads to Lombardy. Padua is situated similarly in the valley of the Brenta, and lies at the junction of the route from Venice to the Brenner Pass northward with that round the delta of the Po southward to Bologna. Bologna is at the junction of the old Roman road and modern railway skirting the northern slopes of the Apennines with the route from Venice across the Apennines to Florence and the Mediterranean coast. Florence itself acts as a centre for the Arno valley, and is at the junction of the route from Lombardy to the sea near Leghorn with the route through the mountains to Rome. Bari, in Apulia, the chief almond-growing and the richest wheat and olive district in Italy, is on the main eastern route to the south. It cannot claim to be an important junction, though it has recently become a university town. Its almond essence distilling, macaroni manufacture, and olive oil pressing arise from the local crops.

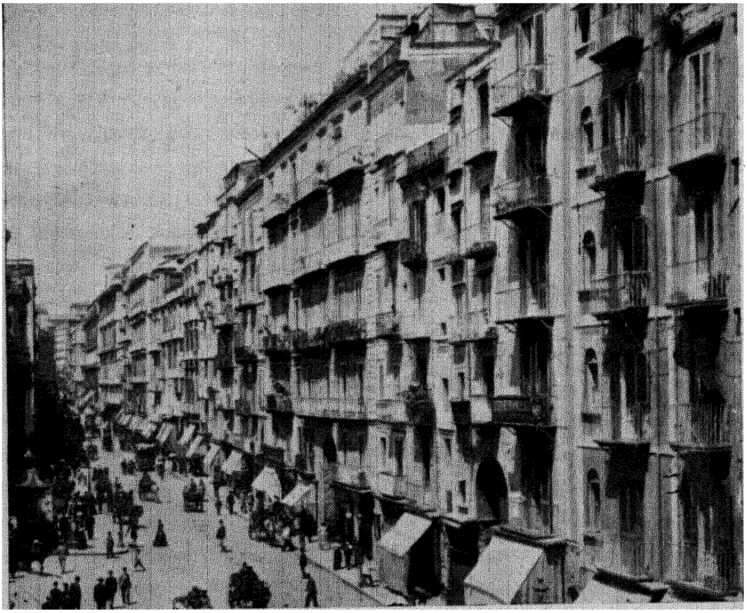


FIG. 53. A MAIN STREET IN NAPLES

Notice the tall houses, containing many homes. Each home has a balcony instead of a garden. Such houses are common in countries bordering the Mediterranean.

By courtesy of the Italian Travel Bureau

Practically all the other large towns of Italy owe their importance to shipping traffic. The business houses, the warehouses, and the docks provide work for many thousands of people. Not only do foreign goods enter the country by sea, but much of the internal trade of the country is carried round the sea-coast—partly because the routes through the mountains are few and difficult, and partly because water transport is cheaper, especially in a country where all the fuel for the railway engines has to be brought from abroad.

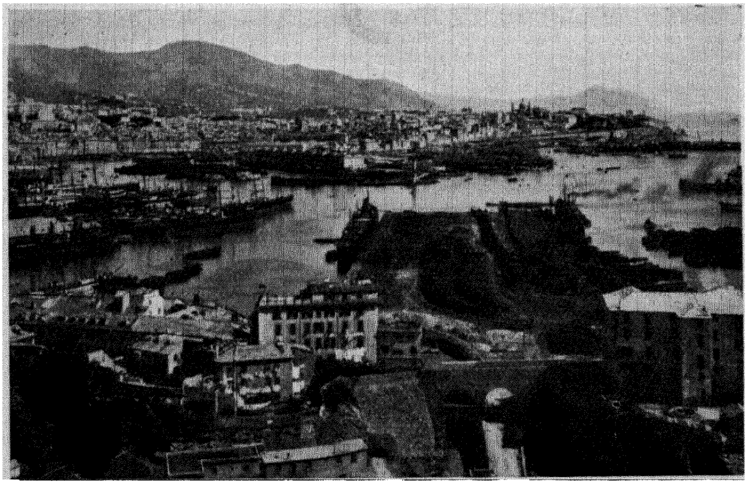


FIG. 54. GENOA, THE CHIEF PORT OF ITALY

Notice how close the mountains come to the sea; also the coal wharf in the foreground. Italy has to import all the coal used in the country.

By courtesy of the Italian Travel Bureau

Naples is both a seaport and the natural centre for the very fertile volcanic hills and lowlands adjoining the river Volturna. Silk and cotton mills have been built here in recent years. Most of the cotton is imported from the East or from America. Genoa's importance depends solely on its favourable position as the port for the industrial districts of Milan and Turin. Coal, iron ore, and food for the workers come through Genoa, though the railway route across the mountains is very difficult. Venice is likely to remain an important port, for it is more conveniently situated as a distributing centre for such towns as Brescia, Padua, and Ferrara than is the port of Genoa. It has not, however, depth of water enough for the largest vessels. Venice was once the port through which all Europe traded with the East. That made it a centre of luxury trades. It was then the leading port of the world. To-day Trieste, with better harbour facilities, takes the place of Venice as the chief Mediterranean port for Middle Europe—for Czecho-Slovakia, Austria, Hungary, and Poland. None of the other ports on the Eastern Adriatic has such a relatively easy land route behind it, though Fiume also has railway communication with the inland states. Palermo, Messina, and Catania are all concerned with the export of fruit and wine, both to the mainland of Italy and to other European countries.

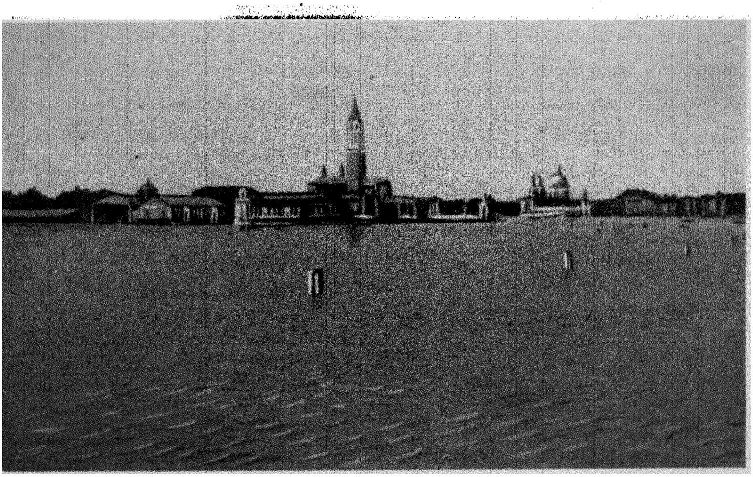


FIG. 55. VENICE, ON THE SHALLOW ADRIATIC SEA

This photograph was taken at high tide. Notice how the channels between the sand-banks are marked.

By courtesy of the Italian Travel Bureau

Taranto, besides being a local port of Apulia, has attracted a population on account of the fact that it is a dockyard for the Italian fleet.

The fact that much of the trade between one part of Italy and another has always been carried on by sea really means that the peoples living on the eastern coast of the Adriatic were as much in touch with Italy as were the people in its own provinces. Many Italian families are settled along this coast. When Venice was a great power it ruled over the people along this coast. The climate is like that of Italy, though moister, and the same fruits and crops grow on the very narrow coastal plain.

Albania. Inland, in the valleys and among the mountains, are peoples of different race and speech and mode of life. In the north are Slavs, who to-day are ruled as part of the country of Yugo-Slavia. In the south the inhabitants are of different race and speech from both Italians and Slavs. They are hardy and brave though uneducated mountain peoples, who through centuries have stood against the Turkish invaders. Those living near the coast have always done business with the Italians. Many of the more wealthy have gone to Italy for their education, and whole families have settled in villages on the Italian coast. However, they are very anxious to govern themselves, so after the Balkan War of 1913 a portion of the Adriatic coast, with the mountainous region behind it, was allotted to the Albanians as the country over which they were to rule.

Italy, Yugo-Slavia, and Albania each control a portion of the east coast of the Adriatic. The Yugo-Slavs are not satisfied, because Fiume, the only port with reasonable railway communication inland, is held by Italy, although the business done at the port and the goods entering and leaving are largely for the benefit of the people living in Yugo-Slavia.

PROBLEMS

1. The figures (1926) for the wheat lands of Italy and the yield from the wheat crops are as follows:

Percentage of Area under Wheat	Yield in Quintals per Hectare
Mountain lands, 23% . .	9·7
Hill lands, 50% . . .	11·4
Plain lands, 27% . .	15·9

How do you account for the wheat crops on the mountain lands and for the little wheat grown in the plains? How would you explain the differences in the yield?

2. The Netherlands are roughly about one-tenth the size of Italy. The areas of the two countries devoted to the chief crops are:

Crop	Italy, in Millions of Acres	Netherlands, in Millions of Acres
Wheat	12	·3
Maize	3·0	—
Oats	1·1	·3
Barley, rye, and rice . .	1·1	·3 (rye only)
Beans and peas . . .	1·3	·1
Potatoes	·8	·4

How would you account for the different proportions of land devoted to each crop and for the proportions devoted to grain as compared with other crops?

3. Calculate, from the table below, the average tonnage of (*a*) Italian and (*b*) foreign ships entering Italian ports. Suggest why they are so different. Consider the depth of seas, size of ports, traffic bound for Asia, and cargoes probably carried.

Nationality	Vessels Entered in 1934	Tonnage
Italian . . .	200,000	54,400,000
Foreign . . .	8,500	13,600,000

4. The number and tonnage of ships leaving Genoa, Trieste, Catania, and Naples in 1932 were as follows:

Genoa . . 6,000 ships, with a tonnage of 10·1 million tons
Trieste . . 17,000 ships, ,, ,, ,, ,, 5·2 ,, ,,
Catania. . 2,900 ships, ,, ,, ,, ,, 2·1 ,, ,,
Naples . . 10,700 ships, ,, ,, ,, ,, 9·8 ,, ,,

Calculate the average tonnage of the ships using each port, and suggest causes to account for the differences. Consider the depth of sea, the nature of the goods carried, the port to which ships are likely to be going, the number of people living within reach of the port, and the goods which these people would be likely to need or send away.

5. Suggest reasons to account for the changes indicated by the following trade figures. Why do the imports of coke not fall similarly to those of coal? For what purposes are coal and coke used?

YEAR	IMPORTS IN MILLIONS OF TONS		
	COAL	COKE	WHEAT
1930 . .	12	·7	1·8
1931 . .	10	·7	1·4
1932 . .	8	·7	1·1

GENERAL PROBLEMS

1. Name those countries and portions of countries which have hot, dry summers and mild, moist winters. What effect do the hot, dry summers have on the work of the people? What advantages arise from the moist, mild winters? Notice carefully the position of these countries, and then suggest the type of climate which you would expect in Algeria and Palestine, and suggest also types of plants and animals which would be suited to these two countries.

2. In which countries do (*a*) maize and (*b*) rye grow in considerable quantities? Compare these countries in regard to the type of weather experienced and the type of soil. Is it the soil or the weather which seems to decide which crop shall be grown? To what use are these grains put, and what effect do they have upon the foreign trade of the country?

3. Which countries and portions of countries were once buried under an ice-sheet? What effect has this cold period in their history had upon the present vegetation, the method of transport, and the means by which the people earn a living to-day? (Take each country separately.)

4. Make a list of those countries whose rivers freeze over regularly every year. From a map find out the position of the Baltic, the Caspian, the Black, and the Mediterranean seas. Do these countries with frozen rivers adjoin a sea? Are they farther north than the countries with milder winters? Suggest as many possible reasons as you can to explain the coldness of these 'Continental' winters.

5. Name the six countries with the largest merchant fleets in proportion to their population. In which of these countries do the difficulties of inland transport lead the people to use boats? Suggest reasons why merchant shipping may have developed to a considerable extent in each case.

6. In what countries are the manufacturing activities collected together in well-defined districts and in what countries are they spread over the countryside? How do you account for the concentration in the one case and the dispersion in the other? In your answer consider the source of power, the source of the raw material, accessibility to sea transport, and the position of the market for the finished product.

7. Draw a rough section across Europe from Lisbon, through

Kiev, to the southern end of the Ural Mountains. Draw similar sections on the lines Brest—Leningrad—Urals (northern part) and Seville—Naples—Constantinople. Consider the relief shown in relation to its effect on the movement of air over continental Europe, and show how the distribution of rainfall is affected.

8. Germany, France, Italy, Russia, and Great Britain have been described as the Great Powers of Europe. Is the 'greatness' due to their size or population? Which states would you class as second- and third-class Powers? Which states appear to have an importance out of proportion to their population? How would you account for this?

APPENDIX

AREA AND POPULATION OF THE STATES OF EUROPE

STATES	AREA IN THOUSANDS OF SQUARE MILES	POPULATION IN MILLIONS	DATE OF CENSUS OR ESTIMATE
Continental Europe	3800 (approx.)	450 (approx.)	
United States (except Alaska)	3000	123	1930
Great Britain	89	45	1931
The Balkan States			
Yugo-Slavia	96	13	1931
Bulgaria	40	6	1932
Greece	42	6	1928
Albania	17(?)	1	1930
The Danubian States			
Rumania	122	19	1934
Czecho-Slovakia	54	14	1930
Austria	32	6¾	1934
Hungary	36	8¾	1930
The Great Plain States			
Poland	150	32	1931
Russia	1500 (approx.)	108	1933
Latvia	24	2	1930
Estonia	18½	1¼	1934
Lithuania	20	2½	1934
The Scandinavian States			
Finland	150	3½	1930
Sweden	173	6¼	1933
Norway	125	2¾	1930
Denmark	16½	3½	1930
The Atlantic States			
Spain	195	24¼	1933
Portugal	35	7	1930
France	213	42	1931
The Central States			
Germany	182	66	1933
Belgium (and Luxemburg)	13	8¼	1933
Holland	12½	8¼	1933
Switzerland	16	4	1930
The Mid-Mediterranean State			
Italy	120	41	1931